

Modutrol IV™ Motor Cross Reference

FOR HONEYWELL AND COMPETITIVE MOTORS

CROSS REFERENCE

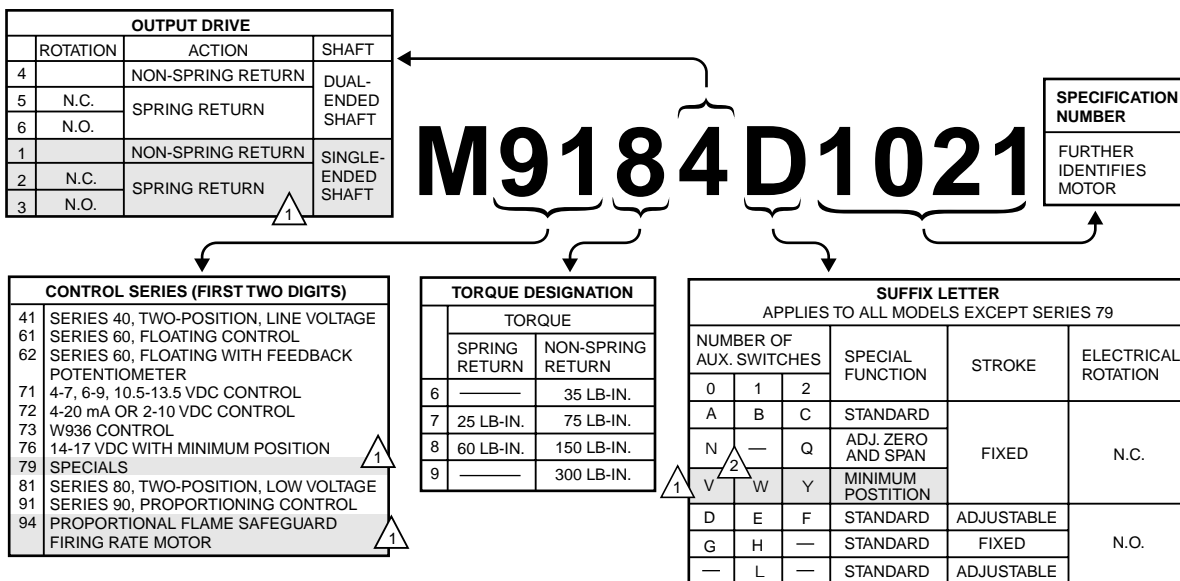
HOW TO USE THIS MANUAL

This cross reference is intended to aid in selection of new and replacement Modutrol IV Motors. Since publication of the previous edition, several changes in the Modutrol IV Motor product line have occurred. Many specialty models formerly available are replaceable with TRADELINE® models *only*.

To select a Modutrol IV Motor, open to the section for the motor under consideration. Find the motor in the left-most column and read across the page to find appropriate replacement Modutrol IV Motors. For column format explanations, refer to the page preceding the table. Once you have selected a replacement Modutrol IV Motor, turn to the Modutrol IV to Modutrol IV Motor of this manual and compare the data for the selected motor to the data for the original motor as well as to the application. This will ensure proper Modutrol IV Motor selection.

Not all cross referenced motors match exactly. The comments describe differences and indicate necessary actions when replacing the original motor.

Modutrol IV Motor Order Number Guide



△1 MODEL NUMBERS IN SHADED AREAS ARE AVAILABLE SPECIAL ORDER ONLY. CONTACT YOUR HONEYWELL SALES REPRESENTATIVE.
 △2 SUFFIX LETTERS IN BOLD ARE OBSOLETE.

IMPORTANT

1. The final choice of a replacement motor is the sole decision of the purchaser. There are often several approaches to replacing a Modutrol® Motor. Double-check each cross reference and comments to ensure the correct motor for the application has been chosen.
2. Ensure that settings and recommendations for accessories match the application requirements.
3. Consider all discrepancies between the original motor and the selected replacement motor when determining whether the selected motor will operate as desired.
4. Report any discrepancies you find in the data to your local Honeywell Sales Representative.

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MODUTROL IV CROSS REFERENCE APPLICATION NOTES

This section contains the application of Modutrol IV Motors in replacement situations. In each subsection, additional data is provided about notations listed in the tables. The notations are listed in alphabetical order with the comment in **bold** type. Unless specifically noted, the data refers to any section where the comment appears.

Add Q181 for Slaved Motor Applications

Certain Modutrol II Motors included a second feedback potentiometer, which was used to drive a second Series 90 Motor. They were the last Modutrol Motors to have this feature. The applications that used this feature now require a Q181 mounted on the auxiliary end of the motor to provide control of the second motor. If the master motor uses Series 90 control, (i.e., the controller is T915, L91, T921, etc.) the motors can be run in parallel by using resistor kit 4074BYK or resistor board 221508A.

NOTE: Slaving a second motor to the master motor causes the second motor to lag the first in operation. Depending on the Q181 and stroke adjustment, it may not achieve full stroke. Running two Series 90 Modutrol IV Motors in parallel with the resistor kit will synchronize operation of the two Modutrol IV Motors.

Adjustable Zero and Span

In 4 to 20 mA signal Series 70 applications, a narrower control range is required to provide motor sequencing across the input signal. M744Y and M745Y Modutrol III Motors and M7284Q and M7285Q Modutrol IV Motors were designed for this application. This feature can also be obtained using the Q7230A1006 Interface Module with a Series 91 Motor. The adjustable zero feature allows you to set the point on the input signal where the motor leaves closed and the adjustable span feature allows you to select the change in input signal that causes the motor to run from fully open to fully closed. Refer to Interface Module literature for details.

Auxiliary Switch Settings

When specified, the auxiliary switch setting indicates the factory set switching action. If no setting is listed, the switches were not set at the factory and can be set at any motor stroke position. It is the responsibility of the installer to ensure correct operation of the auxiliary switches when the replacement Modutrol IV Motor is installed.

Check Voltage

When a comment regarding checking the original application and replacement motor voltage supplies appears, the cross referenced motor may not have the correct voltage, and some adjustment needs to be made. If possible, change motor voltage requirements to agree with the application. If necessary, an internal or external transformer can be added to the motor. If the replacement motor has a transformer where 24 Vac operation is required, the transformer can be removed. For additional information, refer to the cross reference listing and literature for the motor selected.



CAUTION

Equipment Damage Hazard.

Removal of an isolation transformer can result in motor damage.

Leave 24 Vac to 24 Vac isolation-type transformers in the replacement motor.

Change Control Circuit to 24 Vac

Certain Modutrol I and Modutrol II Motors were designed with line voltage submotors. Accordingly, the controllers for these motors switched line voltage to the motor to drive the motor open or closed. This application is similar to the external balance relay application (see the No Internal Balance Circuit section). Modutrol III and Modutrol IV Motors were designed with 24 Vac submotors. Motors listed as replacements for line voltage versions list a transformer to match the original input voltage. To complete the circuit, the switching must be changed to provide dry contact closures capable of 24 Vac operation. A difficulty arising from this change is the requirement of supplying line voltage to the Modutrol IV Motor. In most cases, this involves running one or two new wires to the motor. However, if you modify the controller to supply 24 Vac to the motor coils, additional wiring can be avoided. In this alternative, place the transformer in the circuit ahead of both the controller and the motor and original wiring will operate.

Control Signal

This section described the various input signals listed in the signal columns:

Digital: Specifically, M7405 Economizer Motor which will operate only with T7400/W7400 systems.

Series 40 (41): Line voltage, single pole, single throw (spst) switching. Motor runs full stroke on contact closure, and spring-returns when contact opens.

Series 60 (61): Three-wire, single pole, double throw (spdt) switching. Responds to either spst (three-wire) contacts or three-wire floating control (drive open, off, drive closed). Series 60 (61) motors may be either line or low voltage. Modutrol III and Modutrol IV Motors require low voltage switch contacts.

Series 62: similar to Series 60 (61), but includes feedback potentiometer. Responds to either spst (three-wire) contacts or three-wire floating control (drive open, off, drive closed). The three-wire feedback potentiometer provides a position indication to the controller. See No Internal Balance Circuit (Series 62 Modutrol IV) section.

Series 70 (71,72,73,74,76,79): Voltage, current and specialty inputs. Appropriate input signal is listed for each motor.

Series 80 (81): Low voltage, spst (spst) switching. Motor runs full stroke on contact closure, and spring-returns when contact opens.

Series 90 (91, 94) 135 Ohm: Three-wire potentiometer input. Based on 135 ohm potentiometers found in controls such as L91, Q181, Q209, S963B, T915, T991, and T921. The Modutrol III and Modutrol IV Motors operate with electronic Series 90 outputs such as those found in T775E, T775F, T775G, W973B, W7100D, and W7100E. Modutrol I and Modutrol II Motors will not operate with electronic inputs, while Modutrol III and Modutrol IV Motors will operate with either electronic or potentiometer inputs.

SPST: See Series 40 and 80.

Thermistor: Motor works with a specific thermistor input. Consult specification for original motor for details.

W936 (W945): The W936 are control systems utilizing a voltage output to position a damper or valve motor. Voltage range is approximately 0.7 (fully-closed) to 1.9 Vdc (fully-open).

Customer Names

Specific customer names in the comments column indicate the motor was originally built around specific OEM customer application requirements. Some of the requirements allow the original to be cross referenced to a Modutrol IV Motor. If no replacement is listed, please contact the OEM or their local agent for assistance in replacing the original motor.

Motor Not Crossed To Modutrol IV

If no Modutrol IV Motor cross reference is listed because of specifications, some critical feature included in the original is not duplicated in functional replacements or TRADELINE motors. In these cases, the original motor will cross reference to itself, rather than to a Modutrol IV Motor and no TRADELINE model will be listed. For further information on these motors, contact your local Honeywell sales representative.

NOTE: Consider all Modutrol I, II and III Motors obsolete.

No Internal Balance Circuit (Series 62 Modutrol IV)

When Modutrol Motors included a mechanical balance relay (Modutrol I and II), they were susceptible to vibration. To solve this issue, a Series 90 Modutrol Motor was designed which allowed the balance relay to be remote-mounted in a location with less or no vibration. The motors were the M944E,B,G,S, M945B,C,G. The balance relay was the R927. The motor-relay combination acted the same as a Series 90 Modutrol Motor. These motors were also used with other controllers over the years and, as a result, the Series 90 designation is confusing. With the introduction of Modutrol IV Motors, these motors were designated Series 62. The motor acts on inputs exactly the same as Series 61. It also includes a feedback potentiometer. To use Series 62 Modutrol IV Motors in R927 applications, a Q181 feedback potentiometer is required to provide the feedback signal to the R927. The higher current of the R927 burns out the Series 62 Modutrol IV Motor internal feedback potentiometer. A low current source does not. This allows it to be used in applications requiring position feedback to a control system.

NOTE: When replacing a motor that was connected to a balancing relay, Honeywell recommends performing a retrofit to remove the relay and the old motor. Replace both with one Series 90 Modutrol IV motor (that is, do not replace the relay).

Normally Open (N.O.) / Normally Closed (N.C.)

This indicates how the motor rotates, usually in reference to the spring return action. It also indicates electrical response to input signals. Most motors are normally closed, so unless normally open is indicated, the motor is normally closed. When referencing electrical operation, this indicates response to the input signal. Viewed from the power end of motor, an increase in signal causes the shaft to rotate clockwise for a normally closed motor. A normally open motor rotates counterclockwise on the same signal increase. When the signal is removed, all motors (except for Series 60 and 62) return to normal position, closed for normally closed, or open for normally open.

Set To... (Voltage, Current, or Rotation)

A note specifying a signal range or rotation choice indicates a setting on the interface module listed under Accessories. Please refer to the literature shipped with the interface module for details.

Ship Position (90 Or 160 Degrees)

Indicates factory stroke setting of adjustable stroke motors. TRADELINE models are shipped in the 160 degree position. To adjust the stroke setting, refer to the literature shipped with the Modutrol IV Motor.

Tapped Auxiliary Shaft

These motors include a tapping in the auxiliary shaft end as well as in the power shaft. Some OEM customers use this tapping to mount specific accessories to the motor when used in their equipment. The tapping is 8-32 UNC-2B x 0.56 in. deep.

TRADELINE

Indicates the original motor is a TRADELINE model. Modutrol IV TRADELINE Motors have the following features: 24 Vac, cams installed for addition of auxiliary switches, adjustable stroke (except for M6285A1005 and M6285A1013), and the auxiliary end shaft can accept a Q5001 Valve Linkage. There are several Modutrol IV TRADELINE Motors that cover the entire range of input signals. Each motor can be configured to replace multiple other models.

25 Hz

Motors marked 25 Hz were designed to operate at a line or low voltage with 25 Hz rather than 50/60 Hz. Motors not specifically indicated are 50/60 Hz.

Unidirectional Drive

Specifically, some competitive motors and Modutrol I M204 motors are listed as unidirectional drive. This indicates a SPDT, low-voltage control circuit. On the initial call, the motor rotates clockwise through 180 degrees. On the second call, the motor rotates clockwise another 180 degrees to return to normal position.

Weather Kit Installed

This indicates the appropriate weatherproofing kit is installed at the factory. Modutrol IV Motors are rated at NEMA 3 when mounted in an upright position. Addition of a weatherproofing kit extends this rating to side and upside down mounting arrangements.

IMPORTANT

In all applications, the motor must be mounted with the shaft horizontal to maintain normal motor life.

NOTE: Motors previous to Modutrol IV are not NEMA rated and therefore required a weatherproofing kit that requires a NEMA 3 rating, regardless of mounting orientation.

COMPETITIVE MOTORS TO MODUTROL IV MOTORS

This section cross references motors produced by Barber-Colman, Johnson, and White Rodgers to Modutrol IV Motors. Please refer to the Application Notes section for specific comments.

Cross Reference Format

Information contained in individual rows refer to the motor listed in the OS # to be Replaced column unless otherwise noted in the Comments column. Following is an example of the format used in this section and explanations of each column.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
1	2	3	4	5	6	7	8	9	10	11	12	13	14

1. Lists the original motor to be replaced.
2. Lists the Modutrol IV TRADELINE Replacement Motor. This TRADELINE motor may require configuration with the accessories listed in columns 3 through 7 and 15.
3. Specifies which internal mount transformer, if any, is required to match the original motor voltage. The transformer choices are:
 - a. 198162AA – 120/208/240 Vac, 50/60 Hz (multi-tap).
 - b. 198162EA – 120 Vac, 50/60 Hz.
 - c. 198162GA – 220 Vac, 50/60 Hz.
 - d. 198162JA – 24 Vac, 50/60 Hz (isolation).
4. Specifies which field-addable auxiliary switch, if any, is required to match the original motor. The switch kit choices are:
 - a. 220736A – one spdt switch and mounting bracket.
 - b. 220736B – two spdt switches and mounting bracket.
5. Specifies which accessory parts or devices, if any, are required to complete the replacement. Items include Weatherproofing Kits, Minimum Position Potentiometers, and linkages. Check the original application to ensure that you account for all modifications of the original motor.
6. Specified stroke setting of the Modutrol IV TRADELINE Motor. 12 of the 14 TRADELINE models have adjustable stroke. The remaining two (M6285A) are fixed stroke. “ADJ” listed here indicates the original motor also had adjustable stroke. Check the application to duplicate the original stroke requirements.
7. Lists the voltage of the original motor.
8. Lists the torque rating of the original motor.
9. Lists the full stroke rotation of the original motor (closed to open) in angular degrees. Two values with a “-” indicate a range of adjustment available in the field.
10. Lists the timing of the original motor. If two or adjustable stroke is listed in column 10, the time refers to a 160 degree stroke.
11. Lists the number of auxiliary switches, if any in the original motor.
12. Lists the control signal of the motor. The listing can specify either an actual value of signal input, or a “Series” designation. Please refer to the Application Notes section in this manual.
13. Lists the functional Modutrol IV Motor replacement. In some cases, the replacement will have additional features not found in the original motor. This column can also specify “+” and an accessory. This indicates a minor addition to the functional replacement will provide the functionality required in the application.
14. Comments listed in this column provide additional information to consider when replacing the original motor. Consider differences carefully prior to installation of the Modutrol IV TRADELINE Motor.

IMPORTANT

When replacing competitive motors, check the valve or damper linkage. In some cases, both the motor and the linkage will require replacement due to physical size incompatibility between the Modutrol IV Motors and some competitive motors.

Table 1. Competitive Modutrol Motor Cross Reference.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
BARBER COLMAN													
MA-12313	None					24	25	75-180°	28		spst	M8415A1004	90 sec, 1 aux switch
MA-12323	None					24	25	75-180°	28	2	spst	M8415A1004	
MA-305	None					24	16	180°	20		spst	M836A1042	75° stroke, 30 sec, 32-125°F
MA-305-500	None					24	16	180°	20	1	spst	M836A1042	
MA-318	M8185D1006				160°	24	60	180°	20		spst	M8185A1002	160° stroke, 60 sec
MA-318-500	M8185D1006		220736A		160°	24	60	180°	20	1	spst	None	
MA-405	None					120	16	180°	20		spst	M436A1116	75° stroke, 30 sec, 32-125°F
MA-405-500	None					120	16	180°	20	1	spst	M436A1116	
MA-406	None					208	16	180°	20		spst	M836A1042	Requires 208 Vac transformer
MA-406-500	None					208	16	180°	20	1	spst	M836A1042	
MA-407	None					240	16	180°	20		spst	M436A1124	75° stroke, 30 sec, 32-125°F
MA-407-500	None					240	16	180°	20	1	spst	M436A1124	
MA-416	M8185D1006	198162AA			160°	208	60	180°	20		spst	M4185B1017	160° stroke, 60 sec M8185D: 60 sec
MA-416-500	M8185D1006	198162AA	220736A		160°	208	60	180°	20	1	spst	M4185B1017	
MA-418	M8185D1006	198162EA			160°	120	60	180°	20		spst	M4185A1001	
MA-418-500	M8185D1006	198162EA	220736A		160°	120	60	180°	20	1	spst	M4185B1009	
MA-419	M8185D1006	198162AA			160°	240	60	180°	20		spst	M4185B1017	
MA-419-500	M8185D1006	198162AA	220736A		160°	240	60	180°	20	1	spst	M4185B1017	160° stroke, 60 sec TRADELINE is 60 sec
MA-5330	None					120	20	2			spst	None	MA-5330: Damper DCA
MA-5333	None					24	20	2			spst	None	MA-5333: Damper DCA
MA5-419	M8185D1006	198162AA			160°	240	60	170°	20		spst	M4185B1017	MA5 includes special enclosure TRADELINE is 240 sec
MA5-419-500	M8185D1006	198162AA	220736A		160°	240	60	170°	20	1	spst	M4185B1017	
MC-351	M6194D1017		220736A		160°	24	220	180°	70	1	spdt	None	Original: unidirectional operation TRADELINE is 240 sec
MC-421	M6184D1035	198162EA	220736A		160°	120	175	180°	20	1	spdt	None	Original: unidirectional operation TRADELINE is 60 sec
MC-431	M6194D1017	198162GA	220736A		160°	120	220	180°	30	1	spdt	None	Original: unidirectional operation TRADELINE is 240 sec
MC-4311	M6194D1017	198162GA	220736A		160°	240	220	180°	30	1	spdt	None	

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 1. Competitive Modutrol Motor Cross Reference. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
MC5-4311	M6194D1017	198162AA	220736B	ES-650	160°	120	220	180°	36	1	spdt	None	Original: unidirectional operation TRADELINE is 240 sec; ES-650 is explosion proof housing (see Accessories)
MC-9610	None					120	1100	180°	65	1	spdt	None	Original: unidirectional operation
MC-9810	None					120	1300	180°	115	1	spdt	None	
ME-12313	None					24	25	110°	28 (90°)		3-position	M8405A1006	
ME-12313-102	None					24	25	110°	28 (90°)	2	3 position	M8405A1006	
MP-2110	None					120	50	180°	25	1	CP-8000	None	
MP-2113-500	M6184D1035		220736A		160°	24	50	180°	25	1	spdt	M6184D1001 + Q607A	75 lb-in, 60 sec TRADELINE is 60 sec, 150 lb-in
MP-2130-500	M6184D1035	198162EA	220736A		90°	120	50	90°	13	1	spdt	M6184D1001 + Q607A	
MP-2150-500	M6184D1035	198162EA	220736A		160°	120	50	180°	25	1	spdt	M6184A1023 + Q607A	
MP-2151-500	M6184D1035	198162AA	220736A		160°	240	50	180°	30	1	spdt	None	TRADELINE is 60 sec, 150 lb-in
MP-371	M6294D1008		220736A		160°	24	50	180°	90	1	spdt	None	TRADELINE is 160°, 240 sec
MP-381	M6194D1017		220736A		160°	24	220	180°	130	1	spdt	None	Replacement is 160°, 240 sec TRADELINE is 160°, 240 sec
MP-481	M9194D1003	198162EA	220736A	Q7230A	160°	120	220	180°	130	1	2-15 Vdc	None	Set signal range
MP-483-600	M6294D1008	198162EA	220736A		90°	120	220	90°	65	1	spdt	M6294D1008	Check timing and stroke
MP-485	M6194D1017	198162EA	220736A		160°	120	220	180°	130	1	spdt	None	
MP-4851	M6294D1008	198162AA	220736A		160°	240	220	180°	130	1	CP-8000	None	
MP-486	M6294D1008	198162EA	220736A		160°	120	220	180°	130-1300	1	spdt	None	
MP-9710	None					120	800	180°	135	1	Proportional	None	
MU-12313	None					24	25	90°	28		Economizer	M7415A1006	
PENN JOHNSON													
M110AAB-1	M8185D1006	198162EA	220736A		ADJ	120	25	45-270°	60	1		None	Replacement is 90°-160° stroke
M110AGA-1	M8185D1006				ADJ	24	25	45-270°	60			None	
M110AGB-1	M8185D1006		220736A		ADJ	24	25	45-270°	60	1		None	
M110GGA-1	M9175D1014			Q7230A								None	
M110JGA-1	M9185D1004				ADJ	24	25	65-270°	60			M9175D1014	
M110JGB-1	M9175D1014		220736A		ADJ	24	25	65-270°	60			M9175D1014	

Table 1. Competitive Modutrol Motor Cross Reference. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M110QGA-1	None											None	
M120AAA-1	M6184D1035	198162EA			ADJ							None	
M120AAB-1	M8185D1006	198162EA	220736A		ADJ							None	
M120AAC-1	M6184D1035	198162EA	220736B		ADJ							None	
M120AGA-1	M6184D1035				ADJ							None	
M120GGA-1	M9164D1009			Q7230A	ADJ							None	Select signal range
M120JAA-1	M9164D1009	198162EA			ADJ	120	35	65-270°	60			M9164D1009	Replacement is 90°-160° stroke
M120JAC-1	M9164D1009		220736B		ADJ	24	35	65-270°	60	2		M9164C1050	
M120JGA-1	M9164D1009				ADJ	24	35	65-270°	60			M9164A1021	M9164A1021: wire to 24 Vac
M120QGA-1	None											None	
M130AGA-1	M8185D1006				ADJ	24	50	45-270°	60			None	Replacement is 90°-160° stroke
M130AGB-1	M8185D1006		220736A		ADJ	24	50	45-270°	60	1		None	
M130GGA-1	M9185D1004				ADJ	24	50	65-270°	60			M7285Q1016	Replacement is 90°-160° stroke
M130JGA-1	M9185D1004				ADJ	24	50	65-270°	60			M9185A1018	
M130JGB-1	M9185D1004		220736A		ADJ	24	50	65-270°	60	1		M9185E1019	Replacement is 90°-160° stroke
M130QGA-1	None											None	
M140AAA-1	M6184D1035				ADJ							None	
M140AGA-1	M6184D1035				ADJ							None	
M140GGA-1	M9174D1007			Q7230A	ADJ							None	Select signal range
M140JAA-1	M9174D1007	198162EA			ADJ	120	70	65-270°	60			M9174D1007	Replacement is 90°-160° stroke
M140JGA-1	M9174D1007				ADJ	24	70	65-270°	60			M9174D1007	
M150AGA-1	M6184D1035				ADJ	24	150	65-270°	60			M6184D1035	
M150AGB-1	M6184D1035		220736A		ADJ	24	150	65-270°	60	1		M6184F1017	
M150GGA-1	M9184D1013			Q7230A	ADJ							None	Select signal range
M150JGA-1	M9184D1013				ADJ	24	150	65-270°	60			M9184A1019	
M150JGB-1	M9184D1013		220736A		ADJ	24	150	65-270°	60	1		M9184F1000	Replacement is 90°-160° stroke
M150JGC-1	M9184D1013		220736B		ADJ	24	150	65-270°	60	2		M9184F1000	
M150QGA-1	None					24	150	65-270°	60			M7284Q1017	

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Table 1. Competitive Modutrol Motor Cross Reference. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal			
M40AAA-1	M9164D1009	198162EA			90°	120	35	90°	34			M9164A1005		
M40AAC-1	M9164D1009	198162EA	220736B		90°	120	35	90°	34	2		M9164C1068		
M40AGA-1	M6184D1035				90°	24	35	90°	34			M6184A1015		
M40AGC-1	M9164D1009		220736B		90°	24	35	90°	34	2		None		
M80AAA-3	M6284D1000											M6284F1013	Check voltage & stroke of motor	
M80AAB-1	M6284D1000		220736B									M6284F1013		
M80ACA-1	M6285A1005											M6285A1005	Check voltage & stroke of motor	
M80ADA-1	M6285A1005											M6285A1005		
M80BAA-1	M9184D1021											M9184A1019		
M80BAA-4	None											M9184D1005		
M80BCA-1	M9185D1004											M9185D1004		
M80BDA-1	M9185D1004											M9185D1004		
M80BEA-1	M9185D1004											M9186G1006	N.O.; Check motor voltage & stroke	
M80FAA-2	M9184D1021											M9184A1019	Check voltage & stroke of motor	
M80FCA-2	M9185D1004											M9185D1004		
M80FDA-1	M9185D1004											M9185D1004		
M80FEA-1	M9185D1004											M9186G1006	N.O.; Check motor voltage & stroke	
M80FFA-1	M9185D1004											M9185A1018	Check voltage & stroke of motor	
M80HAB-1	M9184D1021											M9184F1034		
M80HAC-1	M9184D1021											M9184F1034		
M80JAA-2	M9184D1021				ADJ	24	150	65-240°	60			M9184A1019	Replacement is 90°-160° stroke	
M80JAB-1	M9184D1021		220736A		ADJ	24	150	65-240°	60	1		M9184F1034		
M80JAC-1	None					24	150	65-240°	60	2		M9484E1017		
M80JCA-2	M9185D1004				ADJ	24	50	65-180°	60			M9185A1018		
M80JCB-1	M9185D1004		220736A		ADJ	24	50	65-180°	60	1		M9185E1019		
M80JDA-1	None											None		
M80JFA-1	None											None		

Table 1. Competitive Modutrol Motor Cross Reference. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal			
M81AAA-12	M6184D1035				ADJ	24	150	65-270°	60			M6184F1014	Replacement is 90°-160° stroke	
M81AAA-13	M6184D1035				ADJ	24	80	65-270°	30			M6184D1001		
M81AAB-5	M6184D1035		220736A		ADJ	24	150	65-270°	60	1		M6184F1015		
M81AAC-1	M6184D1035											M6184F1016		
M81ACA-3	M8185D1006				160°	24	50	160°	60			M8185A1002		
M81ACB-1	M8185D1006		220736A		160°	24	50	160°	60	1		None		
M81ADA-2	M8185D1006	198162AA			160°	MULTI	75	160°	60			M4185B1017		
M81AEA-2	M8185D1006	198162AA			160°	MULTI	75	160°	60			M4185B1009		
M81AFA-2	M8185D1006				160°	24	50	160°	60			None		Use aux shaft
M81AFB-1	M8185D1006	198162AA										M4185B1017		Check stroke and aux switch
WHITE RODGERS														
3402-7	None					24	25	110°				M8415A1004	90 sec, 90°	
3402A-7	None					120	25	110°				None		
3403-4	None					24	25	110°				M8405A1006	90 sec, 90°	
3405-2	None					24	20	90°				M836A1042	30 sec, 75°	
3405-3	None					24	25	90°				M836A1042		
3405A-2	None					120	25	90°				M436A1116		
3405-11	None					24	25	90°		1		M836A1042	30 sec, 75°	
3405A-11	None					120	25	90°		1		M436A1116		
3405-14	None					24	25	90°		1		M836A1042		
3420-4	M9175D1014					24	25	90°				M9175D1014	30 sec	
3420A-4	M9175D1014	198162EA				120	25	90°				M9175D1014		
3430-7	None					24	25	90°				M7415A1006	30 sec	
3430-18	None					24	25	90°	25			None		
3430-21	None					24	25	90°	25			None		
3440-4	M9184D1013					24	100	160°	30			M9184A1019	150 lb-in, 60 sec	

OTHER HONEYWELL MOTORS TO MODUTROL IV MOTORS

This section cross references motors produced by Honeywell (which are not Modutrol Motors) to Modutrol IV Motors where appropriate. Please refer to the Application Notes section for specific comments.

Cross Reference Format

Information contained in individual rows refer to the motor listed in the OS # to be Replaced column unless otherwise noted in the Comments column. Following is an example of the format used in this section and explanations of each column.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Transformer	Aux. Switch	Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (seconds)	Aux. Sw	Control Signal		
1	2	3	4	5	6	7	8	9	10	11	12	13	14

1. Lists the original motor to be replaced.
2. Lists the Modutrol IV TRADELINE Replacement Motor. This TRADELINE motor may require configuration with the accessories listed in columns 2 through 7 and 15.
3. Specifies which internal mount transformer, if any, is required to match the original motor voltage. The transformer choices are:
 - a. 198162AA – 120/208/240 Vac, 50/60 Hz (multi-tap).
 - b. 198162EA – 120 Vac, 50/60 Hz.
 - c. 198162GA – 220 Vac, 50/60 Hz.
 - d. 198162JA – 24 Vac, 50/60 Hz (isolation).
4. Specifies which field-addable auxiliary switch, if any, is required to match the original motor. The switch kit choices are:
 - a. 220736A – one spdt switch and mounting bracket.
 - b. 220736B – two spdt switches and mounting bracket.
5. Specifies which accessory parts or devices, if any, are required to complete the replacement. Items include Weatherproofing Kits, Minimum Position Potentiometers, and linkages. Check the original application to ensure that you account for all modifications of the original motor.
6. Specified stroke setting of the Modutrol IV TRADELINE Motor. 12 of the 14 TRADELINE models have adjustable stroke. The remaining two (M6285A) are fixed stroke. “ADJ” listed here indicates the original motor also had adjustable stroke. Check the application to duplicate the original stroke requirements.
7. Lists the voltage of the original motor.
8. Lists the torque rating of the original motor.
9. Lists the full stroke rotation of the original motor (closed to open) in angular degrees. Two values with a “-” indicate a range of adjustment available in the field.
10. Lists the timing of the original motor. If two or adjustable stroke is listed in column 10, the time refers to a 160 degree stroke.
11. Lists the number of auxiliary switches, if any in the original motor.
12. Lists the control signal of the motor. The listing can specify either an actual value of signal input, or a “Series” designation. Please refer to the Application Notes section in this manual.
13. Lists the functional motor replacement. In some cases, the replacement will have additional features not found in the original motor. This column may also specify “+” and an accessory. This indicates a minor addition to the functional replacement will provide the functionality required in the application.
14. Comments listed in this column provide additional information to consider when replacing the original motor. Consider differences carefully prior to motor installation.

Table 2. Other Honeywell Motors to Modutrol IV Motors.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Transformer	Aux. Switch	Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (seconds)	Aux. Sw	Control Signal		
M436A1009	None					120	20	75°	30	1	Series 40	M436A1116	
M436A1017	None					120	20	75°	30	1	Series 40	M436A1116	
M436A1025	None					240	20	75°	30	1	Series 40	M436A1124	
M436A1033	None					240	20	75°	30	1	Series 40	M436A1124	
M436A1041	None					120	20	75°	30	1	Series 40	M436A1116	
M436A1058	None					240	20	75°	30	1	Series 40	M436A1124	
M436A1066	None					240	20	75°	50	1	Series 40	M436A1124	M436A1124 has 30 sec timing
M436A1074	None					220	20	75°	50	1	Series 40	M436A1140	M436A1140 has 50 sec timing
M436A1082	None					120	20	75°	30	1	Series 40	M436A1116	
M436A1090	None					120	20	75°	30	1	Series 40	M436A1124	
M436A1108	None					240	20	75°	30	1	Series 40	M436A1124	
M436A1116	None					120	20	75°	30	1	Series 40	M436A1116	
M436A1124	None					240	20	75°	30	1	Series 40	M436A1124	
M436A1132	None					240	20	75°	50	1	Series 40	M436A1124	M436A1124 has 30 sec timing
M436A1140	None					220	20	75°	50	1	Series 40	M436A1124	
M436A1157	None					120	20	75°	30	1	Series 40	M436A1116	
M436A1165	None					120	20	75°	30	1	Series 40	M436A1116	Ray Special
M436A1173	None					240	20	75°	40	1	Series 40	M436A1124	M436A1124 has 30 sec timing
M6414A1009	None					24	25	90°	90	1	spdt floating	None	
M6415A1008	None					24	25	90°	90	1	spdt floating	M6415A1016	Trane Special, CCW Open
M6415A1016	None					24	25	90°	90	1	spdt floating	M6415A1016	CCW to Open
M6415B1006	None					24	25	90°	90		spdt floating	M6415B1014	Trane Special, CCW Open
M6415B1014	None					24	25	90°	90		spdt floating	M6415B1014	CW to Open
M7405A1008	None					24	25	90°	90		Digital	M7405A1016	
M7405A1016	None					24	25	90°	90		Digital	M7405A1016	
M7415A1006	None					24	25	90°	90		Thermistor	M7415A1006	
M7415A1014	None					24	25	90°	90		Thermistor	M7415A1006	York Special

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 2. Other Honeywell Motors to Modutrol IV Motors. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Transformer	Aux. Switch	Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (seconds)	Aux. Sw	Control Signal		
M7415A1022	None					24	25	90°	90		Thermistor	M7415A1006	
M7415A1048	None					24	25	90°	90		Thermistor	M7415A1006	
M7415B1004	None					24	25	90°	90		Thermistor	M7415B1004	Opens CW, spring return CCW
M828A ALL	None					120/240	25	None	None		Series 80	M836A1042	
M828B ALL	None					120/240	25	None	None		Series 80	M836A1042	
M828C ALL	None					24	40	None	None		Series 80	M836A1042	
M828D ALL	None					24	40	None	None		Series 80	M836A1042	
M828X ALL	None					120/208	25	None	None		Series 80	M836A1042	
M829A ALL	None					24	3	75°	None	1	Series 80	None	Rewire & replace control system with M835
M833A1007	None					24	6	90°	15M		Series 80	M833A1007	
M833A1015	None					24	6	90°	15M		Series 80	M833A1007	
M833A1023	None					24	6	90°	15M		Series 80	None	G.E. Special, special rotation
M833A1031	None					24	6	90°	15M		Series 80	None	Trane Special, special rotation
M835A1002	None					24	4	80°	80		Series 80	M835A1051	
M835A1010	None					24	4	80°	80	1	Series 80	M835A1051	Reset heat anticipator setting
M835A1028	None					24	4	80°	80	1	Series 80	M835A1051	
M835A1036	None					24	4	80°	80	1	Series 80	M835A1051	
M835A1044	None					24	4	80°	80	1	Series 80	M835A1051	Reset heat anticipator setting
M835A1051	None					24	4	80°	80	1	Series 80	M835A1051	Tradeline
M835A1069	None					24	4	80°	80	1	Series 80	M835A1051	
M836A1000	None					24	20	80°	30	1	Series 80	M836A1042	
M836A1018	None					24	20	75°	30	1	Series 80	M836A1042	
M836A1026	None					24	20	75°	50	1	Series 80	M836A1042	International
M836A1034	None					24	20	75°	30	1	Series 80	M836A1042	
M836A1042	None					24	20	75°	30	1	Series 80	M836A1042	Tradeline
M836A1059	None					24	20	75°	50	1	Series 80	M836A1042	International
M836A1067	None					24	20	75°	30	1	Series 80	M836A1042	

Table 2. Other Honeywell Motors to Modutrol IV Motors. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Transformer	Aux. Switch	Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (seconds)	Aux. Sw	Control Signal		
M836A1075	None					24	20	75°	30	1	Series 80	M836A1042	Coleman Special
M836B1009	None					24	15	75°	25	1	Series 80	M836B1033	
M836B1017	None					24	15	75°	25	1	Series 80	M836B1033	
M836B1025	None					24	15	75°	25	1	Series 80	M836B1033	
M836B1033	None					24	15	75°	25	1	Series 80	M836B1033	Tradeline
M836B1041	None					24	15	75°	25	1	Series 80	M836B1033	Carrier Special
M8405A1006	None					24	25	90°	90		spst	M8405A1006	
M8405A1014	None					24	25	90°	90		spst	M8405A1006	York Special
M8405B1004	None					24	25	90°	90		spst	None	Carrier Special
M8414A1005	None					24	25	90°	90	1	spst	M8414A1005	Non spring return
M8415A1004	None					24	25	90°	90	1	spst	M8415A1004	
M842A1008	None					24	6	90°	18M		Series 80	M842A1008	
M847A1008	None					24	2	45°	20		Series 80	M847A1080	
M847A1023	None					24	2	45°	20		Series 80	M847A1072	
M847A1031	None					24	2	45°	20		Series 80	M847A1080	Canada only, with 38 in. chain linkage & extended mount bracket
M847A1049	None					24	2	45°	20		Series 80	M847A1072	Canada Special with disengaging actuator arm
M847A1056	None					24	2	45°	20		Series 80	M847A1072	Arm not mounted
M847A1064	None					24	2	45°	20		Series 80	M847A1072	
M847A1072	None					24	2	45°	20		Series 80	M847A1072	With disengaging actuator arm
M847A1080	None					24	2	45°	20		Series 80	M847A1080	With 38 in. chain linkage, with extended mount bracket
M847A1098	None					24	2	45°	20		Series 80	M847A1098	Canada Special, with disengaging actuator arm, extended mounting bracket included
M984B1015	None					24	45	90°	18	1	135 ohm	None	Canada Versa Drive
M986A1011	None					24	45	90°	18		135 ohm	None	
M986B1002	None					24	45	90°	18	1	135 ohm	None	
ML984A1030	None					24	160 lb	0.75 in.	60		135 ohm	ML984A1030	Canada Special
ML984B1004	None					24	80 lb	0.75 in.	75		135 ohm	ML984B1004	Liebert Special, no balance relay, with feedback potentiometer

MODUTROL I, II AND III MOTORS TO MODUTROL IV MOTORS

This section cross references Honeywell motors (produced from 1936 to 1991) to Modutrol IV Motors. Please refer to the Application Notes section for specific comments.

Cross Reference Format

Information contained in individual rows refer to the motor listed in the OS # to be Replaced column unless otherwise noted in the Comments column. Following is an example of the format used in this section and explanations of each column.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
1	2	3	4	5	6	7	8	9	10	11	12	13	14

1. Lists the original motor to be replaced.
2. Lists the Modutrol IV TRADELINE Replacement Motor. This TRADELINE motor can require configuration with the accessories listed in columns 3 through 6 and 15.
3. Specifies which internal mount transformer, if any, is required to match the original motor voltage. The transformer choices are:
 - a. 198162AA – 120/208/240 Vac, 50/60 Hz (multi-tap).
 - b. 198162EA – 120 Vac, 50/60 Hz.
 - c. 198162GA – 220 Vac, 50/60 Hz.
 - d. 198162JA – 24 Vac, 50/60 Hz (isolation).
4. Specifies which field-addable auxiliary switch, if any, is required to match the original motor. The switch kit choices are:
 - a. 220736A – one spdt switch and mounting bracket.
 - b. 220736B – two spdt switches and mounting bracket.
5. Specifies which accessory parts or devices, if any, are required to complete the replacement. Items include Weatherproofing Kits, Minimum Position Potentiometers, and linkages. Check the original application to ensure that you account for all modifications of the original motor.
6. Specified stroke setting of the Modutrol IV TRADELINE Motor. 12 of the 14 TRADELINE models have adjustable stroke. The remaining two (M6285A) are fixed stroke. “ADJ” listed here indicates the original motor also had adjustable stroke. Check the application to duplicate the original stroke requirements.
7. Lists the voltage of the original motor.
8. Lists the torque rating of the original motor.
9. Lists the full stroke rotation of the original motor (closed to open) in angular degrees. Two values with a “-” indicate a range of adjustment available in the field.
10. Lists the timing of the original motor. If two or adjustable stroke is listed in column 10, the time refers to a 160 degree stroke.
11. Lists the number of auxiliary switches, if any in the original motor.
12. Lists the control signal of the motor. The listing can specify either an actual value of signal input, or a “Series” designation. Please refer to the Application Notes section in this manual.
13. Lists the functional Modutrol IV Motor replacement. In some cases, the replacement will have additional features not found in the original motor. This column may also specify “+” and an accessory. This indicates a minor addition to the functional replacement will provide the functionality required in the application.
14. Comments listed in this column provide additional information to consider when replacing the original motor. Consider differences carefully prior to installation of the Modutrol IV TRADELINE Motor.

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M204A1001	None					24	37	180	15		Series 20	M6184D1001	Unidirectional stroke; Replacement is 160°, 30 sec timing
M204A1019	M6184D1035				160°	24	54	180	30		Series 20	M6184D1001	Unidirectional stroke
M204A1027	None					24	54	30	54		Series 20	None	Unidirectional stroke; For use with 25 Hz
M204A1035	M6184D1035				160°	24	108	180	60		Series 20	M6184D1035	Unidirectional stroke; Replacement is 160°
M204A1043	None					24	108	180	60		Series 20	None	Unidirectional stroke; 25 Hz
M204A1050	M6184D1035				160°	24	108	180	240		Series 20	M6194D1017	Unidirectional stroke; Replacement is 160°, 300 lb-in.
M204A1068	M6184D1035				160°	24	108	180	60		Series 20	M6184D1035	Unidirectional stroke; Replacement is 160°
M204B1000	M6184D1035				160°	24	108	180	60		Series 20	M6184D1035	
M405A1004	None					120	94	60	25		Series 40	None	Special timing and stroke
M405A1020	None					240	94	60	25		Series 40	None	
M405B1003	M8185D1006	198162EA			160°	120	50	160	60		Series 40	M4185B1009	Replaced Motor is 60° Replacement is 160°, 60 sec timing
M405B1011	M8185D1006	198162AA			160°	208	50	160	60		Series 40	M4185B1017	
M405B1029	M8185D1006	198162AA			160°	240	50	160	60		Series 40	M4185B1017	
M405B1037	M8185D1006	198162EA			160°	120	50	160	60		Series 40	M4185A1001	
M405B1045	M8185D1006	198162GA			160°	220	50	160	60		Series 40	None	
M405B1052	M8185D1006	198162EA			90°	120	50	60	60		Series 40	M4185B1017	
M405B1086	M8185D1006	198162GA			90°	220	50	60	60		Series 40	None	
M405B1094	M8185D1006	198162EA			160°	120	50	160	60		Series 40	M4185A1001	
M405B1102	M8185D1006	198162EA			160°	120	50	160	60		Series 40	M4185A1001	
M405C1002	M8185D1006	198162EA			160°	120	50	160	60		Series 40	M4185A1001	
M405C1010	M8185D1006	198162AA			160°	208	50	160	60		Series 40	M4185B1017	
M405C1028	M8185D1006	198162GA			160°	220	50	160	60		Series 40	None	
M405C1036	M8185D1006	198162EA			90°	120	50	90	30		Series 40	M4185B1058	
M405C1044	M8185D1006	198162AA			90°	208	50	90	30		Series 40	M4185B1058	
M405C1051	M8185D1006	198162AA			90°	240	50	90	30		Series 40	M4185B1058	
M405C1069	M8185D1006	198162AA			160°	240	50	160	60		Series 40	M4185B1017	
M405D1001	M8185D1006	198162EA			160°	120	50	160	60		Series 40	M4185B1009	Use aux. end; N.O.

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications				Original Motor Specifications							Functional Replacement	Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal			
M405D1019	M8185D1006	198162AA			160°	208	50	160	60		Series 40	None	Use aux. end; N.O.	
M405D1027	M8185D1006	198162AA			160°	240	50	160	60		Series 40	None		
M405D1035	M8185D1006	198162GA			160°	220	27	160	60		Series 40	None		
M445A1000	M8185D1006	198162EA	220736A		160°	120	50	160	60	1	Series 40	M4185B1009		
M445A1018	M8185D1006	198162EA	220736A		160°	120	50	160	60	1	Series 40	M4185B1009		
M445A1026	M8185D1006	198162AA	220736A		160°	208	50	160	60	1	Series 40	M4185B1017		
M445A1034	M8185D1006	198162AA	220736A		160°	208	50	160	60	1	Series 40	M4185B1017		
M445A1042	M8185D1006	198162AA	220736A		160°	208/240	50	160	60	1	Series 40	M4185B1017		
M445A1059	M8185D1006	198162AA	220736A		160°	240	50	160	60	1	Series 40	M4185B1017		
M445A1067	M8185D1006	198162GA	220736A		160°	220	50	160	60	1	Series 40	None		
M445A1075	M8185D1006	198162EA	220736A		90°	120	50	60	25	1	Series 40	M4185B1058		30 sec timing & 90° stroke
M445A1091	M8185D1006	198162EA	220736A		160°	120	50	160	60	1	Series 40	M4185B1009		
M445A1109	M8185D1006	198162EA	220736A		160°	120	50	160	60	1	Series 40	M4185B1009		
M445A1117	M8185D1006	198162EA	220736A		90°	120	50	90	30	1	Series 40	M4185B1058		
M445A1125	M8185D1006	198162EA	220736A		90°	120	50	90	15	1	Series 40	M4185B1058	Canada Special, aux. switch set at 120°	
M445A4004	M8185D1006	198162EA	220736A		ADJ	120	50	90/160	30/60	1	Series 40	None		
M445C1008	M8185D1006	198162EA	220736A		160°	120	50	160	60	1	Series 40	M4185B1009	Aux. switch set at 155°	
M445C1016	M8185D1006	198162EA	220736A		160°	120	50	160	60	1	Series 40	M4185B1009		
M445C1024	M8185D1006	198162EA	220736A		160°	120	50	160	60	1	Series 40	M4185B1009		
M445D1007	M8185D1006	198162EA			160°	120	50	160	60		Series 40	M4185A1001		
M445D1015	M8185D1006	198162EA			90°	120	50	90	30		Series 40	M4185B1058		
M445D1023	M8185D1006	198162GA			160°	220	50	160	60		Series 40	None		
M445D1031	M8185D1006	198162AA			160°	240	50	160	60		Series 40	M4185B1017		
M445D1049	M8185D1006	198162EA			160°	120	50	180	67		Series 40	M4185A1001	60 sec timing & 160° stroke	
M445D1056	M8185D1006	198162EA			160°	120	50	160	60		Series 40	M4185A1001	M445D was moisture fungus treated	
M465A1008	M8185D1006	198162EA			160°	120	25	160	40		Series 40	M4185B1009	60 sec timing	
M465B1007	M8185D1006	198162EA	220736B		160°	120	50	160	60	2	Series 40	M4185A1001		
M604A1002	M6184D1035	198162EA				120	75	360	30		Series 61	M6184A1023	TRADELIN is 90°/160°	

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal			
M604A1028	M6184D1035	198162AA				240	40	360	60		Series 61	None	TRADELINE is 90°/160°	
M604A1036	M6184D1035	198162AA				208	54	360	30		Series 61	None		
M604A1051	None					240	40	180	15		Series 61	None		Special shaft length
M604A1069	M6184D1035	198162EA				120	40	360	60		Series 61	None	Bahnsen Special; TRADELINE is 90°/160°	
M604A1077	M6184D1035	198162EA				120	75	360	15		Series 61	None	TRADELINE is 90°/160°	
M604B1001	M6184D1035	198162EA			160°	120	37	180	15		Series 61	M6184A1023	Change control circuit to 24 Vac	
M604B1019	M6184D1035	198162AA			160°	240	37	180	30		Series 61	None		
M604B1027	M6184D1035	198162EA			160°	120	75	180	30		Series 61	M6184A1023		
M604B1035	M6184D1035	198162AA			160°	208	54	180	30		Series 61	None		
M604B1043	M6184D1035	198162AA			160°	240	75	180	30		Series 61	None		
M604B1050	None					120	54	180	30		Series 61	None		Designed for use with 25 Hz
M604B1068	M6184D1035	198162EA			160°	120	54	180	30		Series 61	M6184A1023		Change control circuit to 24 Vac
M604B1076	M6184D1035	198162GA			160°	220	54	180	30		Series 61	None		
M604C1059	None					24	108	160	60		Series 61	None	Micronik System	
M604C1083	None					24	150	160	120		Series 61	None		
M604D1009	M6184D1035	198162GA			160°	220	85	180	60		Series 61	None		
M604D1017	M6184D1035	198162GA			160°	220	85	180	60		Series 61	None		
M604E1008	M6184D1035		220736A		ADJ	24	150	90/160	30/60	1	Series 61	M6184F1014	Replacement is 90°/160° stroke	
M604E1016	M6184D1035		220736A		ADJ	24	150	90/160	30/60	1	Series 61	M6184F1014		
M604E1024	M6184D1035		220736A		ADJ	24	150	90/160	30/60	1	Series 61	M6184F1014		
M634A1009	M6184D1035				160°	24	35	160	60		Series 61	M6184D1035	Replacement is 150 lb-in. torque	
M634B1008	M6184D1035	198162EA			160°	120	35	160	60		Series 61	None	Change control circuit to 24 Vac	
M634B1016	M6184D1035	198162AA			160°	240	35	160	60		Series 61	None		
M634C1007	M6184D1035		220736B		160°	24	35	160	60	2	Series 61	M6184F1014	Check torque	
M634C1015	M6184D1035	198162EA	220736B		160°	120	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 198162AA	
M634C1023	M6184D1035	198162AA	220736B		160°	240	35	160	60	2	Series 61	M6184F1014		
M634C1031	M6184D1035	198162GA	220736B		160°	220	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 198162GA	
M634C1049	M6184D1035	198162EA	220736B		160°	120	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 198162EA	

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M634C1056	M6184D1035		220736B		160°	24	35	160	60	2	Series 61	M6184F1014	Check torque
M634C1064	M6184D1035	198162GA	220736B		160°	220	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 198162GA
M634C1072	M6184D1035	198162EA	220736B		160°	120	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 198162EA
M634C1080	M6184D1035	198162GA	220736B		160°	220	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 198162GA
M634C1098	M6184D1035	198162GA	220736B		160°	220	35	160	60	2	Series 61	M6184F1014	
M644A1008	M6184D1035				160°	24	150	160	60		Series 61	M6184D1035	
M644A1016	M6184D1035				160°	24	150	160	60		Series 61	M6184D1035	
M644A1024	M6184D1035				90°	24	150	90	30		Series 61	M6184A1015	
M644A1032	None					24	37	160	15		Series 61	None	
M644A1107	None					24	37	335	15		Series 61	None	
M644A1115	None					24	37	335	30		Series 61	None	
M644A1149	M6184D1035	198162GA			160°	220	150	160	60		Series 61	None	
M644A1180	M6184D1035				160°	24	150	160	60		Series 61	M6184D1035	Carrier Special
M644B1007	M6184D1035	198162EA			160°	120	75	160	30		Series 61	None	Change control circuit to 24 Vac
M644B1015	None					120	37	160	15		Series 61	None	
M644B1031	M6184D1035	198162EA			90°	120	150	90	120		Series 61	None	Change control circuit to 24 Vac
M644B1049	M6184D1035	198162EA			160°	120	75	160	30		Series 61	M6184A1023	TRADELINE is 30/60 sec timing; Replacement is 150 lb-in.
M644B1056	M6194D1017	198162EA			90°	120	150	90	120		Series 61	None	
M644C1006	M6184D1035				ADJ	24	75	90/160	15/30		Series 61	M6184D1001	TRADELINE is 30/60 sec timing
M644C1014	M6194D1017				ADJ	24	150	90/160	120/240		Series 61	M6194D1017	
M644C1022	M6184D1035	198162EA			ADJ	120	150	90/160	120/240		Series 61	None	
M644C1030	M6194D1017				ADJ	24	150	90/160	120/240		Series 61	M6194D1017	
M644C1055	M6194D1017				ADJ	24	300	90/160	120/240		Series 61	M6194D1017	Lennox Special
M644C1063	M6184D1035	198162EA			ADJ	120	150	90/160	120/240		Series 61	None	
M644C1071	M6194D1017				ADJ	24	300	90/160	120/240		Series 61	None	York Special
M644C4000	M6194D1017				ADJ	24	150	90/160	120/240		Series 61	M6194D1017	Canada Special
M644D1005	M6184D1035		220736B		ADJ	24	150	90/160	30/60	2	Series 61	M6184F1014	

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M644D1013	M6184D1035		220736B		ADJ	24	150	90/160	30/60	2	Series 61	M6184F1014	
M644D1021	M6184D1035		220736B		ADJ	24	150	90/160	30/60	2	Series 61	M6184F1014	
M644D1039	M6184D1035		220736B		ADJ	24	150	90/160	30/60	2	Series 61	M6184F1014	
M644D1047	M6194D1017		220736B		ADJ	24	300	90/160	120/240	2	Series 61	None	Lennox Special
M644E1004	M6184D1035		220736A		ADJ	24	150	90/160	30/60	1	Series 61	M6184F1014	Aux. switch set at 4°
M644E1012	M6194D1017		220736A		90°	24	150	90	60	1	Series 61	M6194B1011	TRADELIN: 30/60 sec timing
M644E1020	M6184D1035	198162EA	220736A		ADJ	120	75	90/160	15/30	1	Series 61	None	Aux. switch set at 4°
M644E1038	M6184D1035		220736A		ADJ	24	75	90/160	15/30	1	Series 61	M6184D1001	Requires Q607A1050; Set aux. switch at 40°
M644E1053	M6194D1017		220736A		ADJ	24	300	90/160	120/240	1	Series 61	M6194E1006	
M644F1003	M6184D1035	198162EA			160°	120	75	180	30		Series 61	M6184D1001	Trane Special; Requires 198162AA & 24 Vac control circuit
M644L1006	M6194D1017	198162EA	220736A		90°	120	150	90	120	1	Series 61	None	
M644L1014	M6184D1035	198162EA	220736A		90°	120	150	90	30	1	Series 61	M6184F1014	Requires 198162AA
M644L1022	M6194D1017	198162EA	220736A		90°	120	150	90	120	1	Series 61	None	
M644L1030	M6194D1017	198162EA	220736A		90°	120	150	90	120	1	Series 61	None	Trane Special, aux. switch set at 7°
M734A1007	None					120	35	90	30		W936	M7964A1001	Special circuit
M734A1015	None					120	35	90	30		W936	M7964A1001	
M734A1023	None					120	35	90	30		W936	M7964A1001	Nesbitt Special; Special circuit
M734B1006	None					120	35	90	28		W936	M7964B1009	Special circuit; Check transformer
M734B1014	None					240	35	90	28		W936	M7964B1009	
M734B1022	None					24	35	90	28		W936	M7964B1009	Nesbitt Special; Special circuit
M734B1030	None					240	35	160	50		W936	M7964B1017	Special circuit
M734B1048	None					120	35	160	50		W936	M7964B1017	Check transformer
M734C1005	None					120	35	90	28		W936	M7964C1015	Special circuit
M734C1013	None					120	35	90	28		W936	M7964C1007	Nesbitt Special; Special circuit
M734C1021	None					120	35	90	28		W936	M7964C1007	
M734D1004	M9164D1009	198162EA		Q7330A1004	160°	120	35	160	50		W936	None	
M734D1012	M9164D1009	198162EA		Q7330A1004	90°	120	35	90	28		W936	None	
M734D1020	M9164D1009	198162AA		Q7330A1004	160°	240	35	160	50		W936	None	

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M734D1038	M9164D1009			Q7330A1004	160°	24	35	160	50		W936	None	Use aux end of N.C. motor; N.O.
M734D1046	M9164D1009		220736A	Q7330A1004	90°	24	35	90	28	1	W936	None	
M734D1053	M9164D1009		220736A	Q7330A1004	160°	24	35	160	50	1	W936	None	
M734E ALL	M9164D1009			Q7330A1004			35				W936	None	
M734F ALL	M9164D1009			Q7330A1004			75				W936	None	
M734G ALL	M9164D1009			Q7330A1004			75				W936	None	
M734H1000	M9164D1009	198162EA		Q7130A1006	90°	120	35	90	28		10.5-13.5 Vdc	M7164G1030	Adjust for 10.5-13.5 Vdc, select CCW rotation; Elec. N.O.
M734H1018	M9164D1009	198162EA		Q7130A1006	90°	120	35	90	28		4 - 7 Vdc	None	Adjust for 4-7 Vdc, Select CCW; Electrically N.O.
M734H1026	M9164D1009			Q7130A1006	160°	24	35	160	50		4 - 7 Vdc	None	
M734H1034	M9164D1009			Q7130A1006	90°	24	35	90	30		10.5-13.5 Vdc	M7164G1030	Adjust for 10.5-13.5 Vdc, select CCW rotation; Elec. N.O.
M734J1007	M9164D1009	198162EA		Q7130A1006	160°	120	35	160	50		6 - 9 Vdc	None	Adjust for 6-9 Vdc
M734J1015	M9164D1009			Q7130A1006	160°	24	35	160	50		4 - 7 Vdc	None	Adjust for 4-7 Vdc
M734J1023	M9164D1009			Q7130A1006	90°	24	35	90	30		10.5-13.5 Vdc	M7164A1017	Lennox Special; Adjust for 10.5-13.5 Vdc
M734J1031	M9164D1009	198162EA		Q7130A1006	90°	120	35	90	30		10.5-13.5 Vdc	None	York Special; Adjust for 10.5-13.5 Vdc
M734J1049	M9164D1009			Q7130A1006	160°	24	35	160	50		10.5-13.5 Vdc	None	Lennox Special; Adjust for 10.5-13.5 Vdc
M734J1056	M9164D1009			Q7130A1006	90°	24	35	90	30		10.5-13.5 Vdc	M7164A1017	Adjust for 10.5-13.5 Vdc
M734J1064	M9164D1009	198162EA		Q7130A1006	90°	120	35	90	30		6 - 9 Vdc	None	Adjust for 6-9 Vdc
M734J1072	M9164D1009	198162EA	220736A	Q7130A1006	160°	120	35	160	50	1	4 - 7 Vdc	None	Adjust for 4-7 Vdc
M734K1006	None					120	35	160	50		4 - 7 Vdc, 3W, 11 Vdc out	None	3 wire output Micronik system
M734K1014	None					24	35	160	50				
M741B1001	None					24	150	90	30		BRCS	None	Cleaver Brooks BRCS
M741B1019	None					24	150	90	30		BRCS	M7484A1010	BRCS
M744A1006	M9184D1021			Q7330A1004	160°	24	150	160	60		W936	None	
M744A1014	M9184D1021			Q7330A1004	90°	24	150	90	30		W936	None	
M744A1022	M9184D1013	198162EA		Q7330A1004	90°	120	150	90	30		W936	None	Westinghouse Special
M744B ALL	None					24	150				W936	None	
M744D1003	M9184D1021			Q7130A1006	160°	24	150	160	60		4 - 7 Vdc	None	Adjust for 4-7 Vdc
M744D1011	M9184D1013			Q7130A1006	160°	24	150	160	60		4 - 7 Vdc	None	For use with W7080 systems

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M744D1029	None					24	150	90	30		0.8 - 3.3 Vdc	None	
M744D1037	None					24	150	90	120		0.8 - 3.3 Vdc	None	Despatch Industries
M744D1045	None					120	150	90	30		0.8 - 3.3 Vdc	None	
M744E1002	None					24	50	160	60		2 - 10 Vdc	None	Micronik, with external overdrive
M744F1001	M9184D1013			Q7330A1004	160°	24	150	160	60		W936	None	Includes internal heater
M744G1000	None					24	150	160	60		4 - 7 Vdc, 3W, 11 Vdc out	None	3 wire output Micronik system
M744J1006	None					24	150	90	30		0 - 2.5 Vdc	None	With zero adjustment
M744S1005	M9184D1021	198162EA		Q7230A1005	90°	120	150	90	30		4 - 20 mA	M7284A1004	Adjust for 4-20 mA
M744S1013	M9184D1021	198162EA		Q7230A1005	160°	120	150	160	60		4 - 20 mA	M7284A1012	
M744T1004	M9184D1021	198162EA	220736B	Q7230A1005	90°	120	150	90	30	2	4 - 20 mA	M7284C1000	
M744T1012	M9184D1021	198162EA	220736B	Q7230A1005	160°	120	150	160	60	2	4 - 20 mA	M7284C1018	
M744Y1009	M9184D1021	198162EA	220736B	Q7230A1005	90°	120	150	90	30	2	4 - 20 mA	M7284Q1009	
M744Y1017	M9184D1021	198162EA	220736B	Q7230A1005	160°	120	150	160	60	2	4 - 20 mA	M7284Q1017	Adjust for desired range Adjustable zero span
M745A1003	M9185D1004			Q7330A1004	90°	24	50	90	30		W936	None	
M745A1011	M9185D1004			Q7330A1004	160°	24	50	160	60		W936	None	
M745A1029	M9185D1004	198162EA		Q7330A1004	160°	120	50	160	60		W936	None	
M745B1002	M9185D1004			Q7330A1004	160°	24	50	160	60		W936	None	Use aux end of N.C. motor; N.O. mech. and elec.
M745C1001	M9185D1004			Q7330A1004	160°	24	50	160	60		W936	None	Used with W936 & W945 systems
M745D ALL	None					24	50	160	60			None	N.O.
M745E1009	None					24	50	160	60		W936	M9185G1006 +Q7330A1006	N.O. mechanically, N.C. electrically
M745F1008	None					24	50	160	60			None	N.C. mechanically, N.O. electrically
M745G1007	M9185D1004			Q7130A1006	160°	24	50	160	60		4 - 7 Vdc	M7185A1004	Adjust for 4-7 Vdc, Select CCW, use aux shaft; N.O. mech. and elec.
M745H1006	M9185D1004			Q7630A1001	160°	24	50	160	60		14 - 17 Vdc	None	
M745J1003	None					24	50	160	60		4 - 7 Vdc, 3W, 11 Vdc out	None	3 wire output, Micronik System, electrically N.O.
M745K1002	M9185D1004			Q7630A1001	90°	24	50	90	35		14 - 17 Vdc	None	Lennox Special, select CCW rotation, electrically N.O.

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M745L1001	M9185D1004			Q7630A1001	90°	24	50	90	35		14 - 17 Vdc	None	Lennox Special
M745L1019	M9185D1004	198162EA		Q7630A1001	160°	120	50	160	60		14 - 17 Vdc	None	York Special
M745L1027	M9185D1004			Q7630A1001	160°	24	50	160	60		14 - 17 Vdc	None	
M745L1035	M9185D1004			Q7630A1001	90°	24	50	90	35		14 - 17 Vdc	None	Lennox Special
M745L1043	M9185D1004			Q7630A1001	90°	24	50	90	35		14 - 17 Vdc	None	
M745M1000	M9185D1004			Q7130A1006	160°	24	50	160	60		6 - 9 Vdc	None	Adjust for 6-9 Vdc, use aux. end; Mechanically N.O.
M745M1018	M9185D1004			Q7130A1006	90°	24	50	90	35		10.5-13.5 Vdc	None	Lennox Special; Adjust for 10.5-13.5 Vdc, use aux. end
M745M1026	M9185D1004			Q7130A1006	160°	24	50	160	60		4 - 7 Vdc	None	Adjust for 4-7 Vdc, use aux. end; Mechanically N.O.
M745M1034	M9185D1004			Q7130A1006	160°	24	50	160	60		4 - 7 Vdc	None	Lennox Special, Adjust for 4-7 Vdc, use aux. end, mech. N.O.
M745M1042	M9185D1004			Q7130A1006	160°	24	50	160	60		4 - 7 Vdc	None	Adjust for 4-7 Vdc, use aux. end; Mechanically N.O.
M745N1009	M9185D1004			Q7130A1006	90°	24	50	90	35		10.5-13.5 Vdc	None	Lennox Special; Adjust for 10.5-13.5 Vdc, select CCW rotation
M745N1017	M9185D1004			Q7130A1006	160°	24	50	160	60		10.5-13.5 Vdc	None	Mammoth Special, Adjust for 10.5-13.5 Vdc, select CCW rotation; elect. N.O.
M745N1025	M9185D1004			Q7130A1006	160°	24	50	160	60		6 - 9 Vdc	None	Adjust for 4-7 Vdc, Select CCW; Electrically N.O.
M745P1007	M9185D1004			Q7130A1006	160°	24	50	160	60		4 - 7 Vdc	M7185A1004	Adjust for 4-7 Vdc
M745P1015	M9185D1004			Q7130A1006	90°	24	50	90	35		10.5-13.5 Vdc	None	Lennox Special; Adjust for 10.5-13.5 Vdc
M745Q1006	None					24	50	90	35			None	
M745S1002	M9185D1004	198162EA		Q7230A1005	90°	120	50	90	30		4 - 20 mA	M7285A1003	Adjust for 4-20 mA
M745S1010	M9185D1004	198162EA		Q7230A1005	160°	120	50	160	60		4 - 20 mA	M7285A1011	
M745T1001	M9185D1004	198162EA	220736B	Q7230A1005	90°	120	50	90	30	2	4 - 20 mA	M7285C1009	
M745T1019	M9185D1004	198162EA	220736B	Q7230A1005	160°	120	50	160	60	2	4 - 20 mA	M7285C1017	
M745Y1006	M9185D1004	198162EA	220736B	Q7230A1005	90°	120	50	90	30	2	4 - 20 mA	M7285Q1008	
M745Y1014	M9185D1004	198162EA	220736B	Q7230A1005	160°	120	50	160	60	2	4 - 20 mA	M7285Q1016	Adjustable zero span, Adjust for desired range
M765A1001	M9175D1014			Q7330A1004	160°	24	25	160	40		W936	None	
M765A1019	M9175D1014			Q7330A1004	90°	24	25	90	25		W936	None	
M765K1000	M9175D1014			Q7630A1001	90°	24	25	90	25		14 - 17 Vdc	None	Select CCW rotation; Use with W7080 system, elec. N.O.

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M765L1009	M9175D1014			Q7630A1001	160°	24	25	160	40		14 - 17 Vdc	None	For use with W7080 system
M765L1017	M9175D1014			Q7630A1001	90°	24	25	90	25		14 - 17 Vdc	None	
M765L1025	M9175D1014	198162EA		Q7630A1001	90°	120	25	90	25		14 - 17 Vdc	None	Trane Special; use with W7080 system
M765N1007	M9175D1014			Q7130A1006	90°	24	25	90	25		10.5-13.5 Vdc	None	Lennox Special; Adjust for 10.5-13.5 Vdc, select CCW rotation, elect. N.O.
M765N1015	M9175D1014			Q7130A1006	160°	24	25	160	40		10.5-13.5 Vdc	None	
M765P1005	None					24	25	90	25		3.5 - 6.5 Vdc	None	McDonald's Special; 3 wire output
M765P1013	None					24	25	90	25		3.5 - 6.5 Vdc	None	York Special; 3 wire output
M765Q1004	None					24	25	90	25		0 - 1 mA	None	Nesbitt Special
M805B1004	M8185D1006				160°	24	50	160	60		Series 80	M8185A1002	
M805B1012	None					24	27	160	120		Series 80	None	Designed for use with 25 hz
M805B1020	M8185D1006				160°	24	50	160	60		Series 80	M8185A1002	
M805B1038	M8185D1006		220736A		160°	24	50	160	60	1	Series 80	None	
M805C1003	M8185D1006				160°	24	50	160	60		Series 80	M8185A1002	
M805D1002	M8185D1006				160°	24	50	160	60		Series 80	M4185B1009	Use aux. motor end; N.O.
M845A1001	M8185D1006		220736A		160°	24	50	160	60	1	Series 80	None	
M845A1027	M8185D1006	198162AA	220736A		160°	MULTI	50	160	60	1	Series 80	M4185B1017	
M845A1035	M8185D1006	198162AA	220736A		90°	MULTI	50	90	30	1	Series 80	M4185B1058	Requires 198162AA
M845A1050	None					24	50	160	60	1	Series 80	None	
M845A1068	None					24	50	160	60	1	Series 80	None	
M845A4005	M8185D1006	198162AA	220736A		ADJ	MULTI	50	90/160	30/60	1	Series 80	None	Canada Special, Aux. switch set at 120°
M845B1000	M8185D1006		220736A		160°	24	50	160	60	1	Series 80	None	
M845B1018	M8185D1006	198162EA	220736A		160°	120	50	160	60	1	Series 80	M4185B1017	
M845B1026	M8185D1006	198162GA	220736A		160°	220	50	160	60	1	Series 80	None	
M845C1009	M8185D1006				160°	24	50	160	60		Series 80	M8185A1002	
M845D1008	M8185D1006				160°	24	50	160	60		Series 80	None	Univac Special
M845D1016	M8185D1006	198162EA			160°	120	50	160	60		Series 80	M4185B1017	G.E. Special
M845D1024	M8185D1006				160°	24	50	160	60		Series 80	None	Braden Special
M845E1007	M8185D1006	198162EA	220736A		160°	120	50	160	60	1	Series 80	M4185B1009	Use aux. motor end; N.O.

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M845E4001	M8185D1006	198162EA	220736A		ADJ	24/120	50	90/160	30/60	1	Series 80	M4185B1009	Canada Special; Use aux. motor end
M865A1009	M8185D1006				160°	24	25	160	40		Series 80	None	
M865B1008	M8185D1006		220736A		160°	24	25	160	40	1	Series 80	None	
M904A1006	M9184D1013				160°	24	108	160	60		135 ohm	M9184A1019	
M904E1002	M9184D1013				160°	24	108	160	60		135 ohm	M9184A1019	
M904E1010	None					24	108	160	60		135 ohm	None	
M904E1028	None					24	108	160	60		135 ohm	None	40 Hz
M904E1036	M9184D1013			Q181A1004	160°	24	108	180	60		135 ohm	M9184A1019	Add Q181 for slaved motor applications
M904E1051	M9184D1013				90	24	108	90	30		135 ohm	None	
M904E1085	M9184D1013				90	24	108	90	30		135 ohm	None	Special cam for few positions
M904E1119	M9194D1003				160	24	108	240	90		135 ohm	None	TRADELIN is 90/160 degrees
M904E1150	M9184D1013			Q181A1004	160°	24	108	160	240		135 ohm	M9194D1003	Add Q181 for slaved motor applications
M904E1176	M9184D1013			Q181A1004	160°	24	108	180	240		135 ohm	M9194D1003	
M904E1218	None					24	108	160	240		135 ohm	None	
M904E1226	None					24	14	160	7.5		135 ohm	None	Ariel Davis Mfg., special cam
M904E1234	None					24	38	180	15		135 ohm	None	Special timing; For 30 sec 160° motor, Select M9184D1013
M904E1242	None					24	38	180	15		135 ohm	None	
M904E1267	M9184D1013			Q181A1004	160°	24	54	160	30		135 ohm	M9184D1005	Add Q181 for slaved motor applications
M904E1358	M9184D1013			Q181A1004	160°	24	150	180	60		135 ohm	M9184A1019	
M904E1366	M9184D1013				90	24	150	90	30		135 ohm	M9184A1035	Univac Special
M904E1374	None					24	150	160	60		135 ohm	None	Fungus treated
M904F1001	None					24	37	160	15		Series 62	None	
M904F1019	None					24	75	160	30		Series 62	None	
M904F1027	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000	No internal balance circuit, requires Q181 when using R927
M904F1035	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000	
M904F1043	M6284D1000				90°	24	150	90	30		Series 62	M6284F1013	
M904F1050	M6284D1000				160°	24	150	160	240		Series 62	None	
M904G1000	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000	

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M905E1009	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	Add Q181 for slaved motor applications
M905E1025	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	
M905E1058	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	
M905E1066	M9185D1004			Q181A1004	90°	24	50	90	30		135 ohm	M9185A1026	
M905E1074	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	
M905E1082	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	
M905E1108	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	
M905E1116	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	
M905E1124	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	
M905F1008	M9185D1004				160°	24	56	160	60		135 ohm	M9185A1018	
M905F1016	None					24	27	160	120		135 ohm	None	M905F1016 designed for 25 Hz
M905F1024	M9185D1004				160°	24	27	160	60		135 ohm	M9185A1018	Add Q181 for slaved motor applications
M905F1032	M9185D1004				160°	24	56	160	60		135 ohm	M9185A1018	
M905G1007	M9185D1004				160°	24	50	160	60		135 ohm	M9186G1006	Use aux. motor end
M905G1015	M9185D1004				160°	24	50	160	60		135 ohm	M9186G1006	N.O.
M905G1023	M9185D1004				160°	24	50	160	60		135 ohm	M9186G1006	Use aux. end; Add Q181 for slaved motor applications
M905H1006	M6285A1005				160°	24	27	160	60		Series 62	M6285A1005 + Q209/S963	No internal balance circuit, requires Q181 when using R927
M905H1014	M6285A1005				160°	24	50	160	60		Series 62		
M905J1003	M6285A1005				160°	24	50	160	60		Series 62		
M905K1002	M6285A1005				160°	24	50	160	60		Series 62		
M905K1010	None					24	27	160	120		Series 62	None	M905K1010 designed for 25 Hz
M905L1001	M6285A1005				160°	24	50	160	60		Series 62	M6285A1005	Use aux. motor end, No internal balance circuit; N.O.
M905L1019	None					24	27	160	120		Series 62	None	M905L1019 designed for 25 Hz
M905N1009	M9185D1004				160°	24	50	160	60		135 ohm	M9185C1006	
M905N1017	M6285A1005				160°	24	50	160	60		135 ohm	M9185C1006	For use with W841
M905N1025	M6285A1005				160°	24	50	160	60		135 ohm	M9185C1006	Replacement is less power supply cord, for use with W841, no internal balance circuit
M905P1007	M6285A1005				160°	24	50	160	60		Series 62	M6285A1005	For use with W841 No internal balance circuit

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal			
M905P1015	M6285A1005				160°	24	50	160	60		Series 62	M6285A1005	Replacement is less power supply cord, for use with W841, no internal balance circuit	
M931A1009	None					24	108	90	30		135 ohm	M9484D1010		
M931A1017	None					24	108	90	60		135 ohm	None		
M931A1025	None					24	150	160	60		135 ohm	M9484D1010		
M931A1033	None					24	37	160	15		135 ohm	None		
M931A1041	None					24	54	90	15		135 ohm	M9484D1002		
M931A1058	None					24	75	160	30		135 ohm	M9484D1002		
M931A1066	None					24	108	90	30		135 ohm	M9484D1010		
M931A1074	None					24	108	160	60		135 ohm	M9484D1010		
M931A1082	None					24	108	90	60		135 ohm	None		
M931A1090	None					24	150	160	240		135 ohm	None		
M931A1108	None					24	150	90	60		135 ohm	None		
M931A1116	None					24	150	90	30		135 ohm	M9484D1010		
M931A1124	None					24	108	90/160	30/60		135 ohm	M9494D1000		
M931A1132	None					24	108	90/160	60/120		135 ohm	M9484D1002		
M931A1140	None					24	150	90/160	30/60		135 ohm	M9484D1010		
M931A1157	None					24	37	90/160	7.5/15		135 ohm	None		Special timing
M931A1165	None					24	76	90/160	15/30		135 ohm	M9484D1002		
M931A1173	None					24	108	90/160	30/60		135 ohm	M9484D1010		
M931A1181	None					24	108	90/160	120/240		135 ohm	None		
M931A1199	None					24	54	90/160	30/60		135 ohm	M9484D1010		
M931A1207	None					24	150	160	60		135 ohm	M9484D1010		
M931A1215	None					24	108	90/160	30/60	1	135 ohm	M9484E1017		
M931A1223	None					24	108	90/160	60/120	1	135 ohm	None		
M931A1231	None					24	108	90/160	30/60	1	135 ohm	M9484E1017		
M931A1249	None					24	27	90/160	7.5/15	1	135 ohm	None	Special timing	
M931A1256	None					24	54	90/160	15/30	1	135 ohm	M9484E1009		

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M931A1264	None					24	108	90/160	30/60	1	135 ohm	M9484E1017	
M931A1272	None					24	108	90/160	120/240	1	135 ohm	None	
M931A1280	None					24	150	90/160	30/60	1	135 ohm	M9484E1033	
M931A1298	None					24	150	90	60		135 ohm	None	
M931A1306	None					24	108	90/160	30/60		135 ohm	M9484D1010	
M931A1314	None					24	108	90/160	60/120		135 ohm	M9494D1000	
M931A1322	None					24	108	90/160	30/60		135 ohm	M9484D1010	
M931A1330	None					24	150	160	60		135 ohm	None	
M931B1008	None					24	108	90	30		Series 62	M6284F1013	No internal balance circuit, requires Q181 when using R927
M931B1016	None					24	150	90/160	30/60		Series 62	M6284F1013	
M931B1024	None					24	150	160	60		Series 62	M6284D1000	
M931B1032	None					24	150	160	30		Series 62	None	No internal balance circuit, requires Q181 when using R927
M931B1040	None					24	150	160	60		Series 62	M6284D1000	
M931B1057	None					24	150	90	60		Series 62	None	
M931C1007	None					24	108	90/160	30/60	1	135 ohm	M9484E1017	International special timing
M931C1015	None					24	150	90/160	60/120	1	135 ohm	None	
M931C1023	None					24	150	90/160	30/60	1	135 ohm	M9484E1017	
M931C1031	None					24	37	90/160	7.5/15	1	135 ohm	None	
M931C1049	None					24	75	90/160	15/30	1	135 ohm	M9484E1009	
M931C1056	None					24	150	90/160	120/240	1	135 ohm	None	
M931C1064	None					24	150	90/160	30/60	1	135 ohm	M9484E1017	
M931C1072	None					24	150	90/160	30/60	1	135 ohm	M9484E1033	
M931D1006	None					24	150	160	60	1	135 ohm	M6284F1013	No internal balance circuit
M931D1014	None					24	150	90	30	1	135 ohm	M6284F1013	
M934A1003	M9164D1009	198162AA			160°	240	35	160	60		135 ohm	None	Wire M9164A1021 to 24 Vac
M934A1011	M9164D1009	198162EA			160°	120	35	160	60		135 ohm	None	
M934A1029	M9164D1009				160°	24	35	160	60		135 ohm	M9164A1021	
M934A1037	M9164D1009	198162GA			160°	220	35	160	60		135 ohm	M9164A1088	

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M934A1045	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1050	Wire M9164C1050 to 24 Vac
M934A1052	M9164D1009	198162EA	220736B		160°	120	35	160	60	2	135 ohm	M9164C1050	
M934A1060	M9164D1009	198162AA	220736B		160°	240	35	160	60	2	135 ohm	None	
M934A1078	M9164D1009	198162GA	220736B		160°	220	35	160	60	2	135 ohm	None	
M934A1086	M9164D1009	198162EA			160°	120	35	160	60		135 ohm	M9164A1021	
M934A1094	M9164D1009	198162EA	220736B		160°	120	35	160	60	2	135 ohm	M9164C1050	
M934A1102	M9164D1009	198162AA			90°	240	35	90	35		135 ohm	None	York Special
M934A1128	M9164D1009	198162EA	220736B		90°	120	35	90	35	2	135 ohm	M9164C1068	
M934A1136	M9164D1009	198162EA			90°	120	35	90	35		135 ohm	M9164A1005	
M934A1144	M9164D1009				90°	24	35	90	35		135 ohm	None	
M934A1169	M9164D1009				160°	24	35	160	60		135 ohm	M9164A1021	Wire M9164A1021 to 24 Vac
M934A1193	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1050	Wire M9164C1050 to 24 Vac
M934A1201	M9164D1009	198162AA			160°	240	35	160	60		135 ohm	M9164A1013	
M934A1219	M9164D1009	198162EA			160°	120	35	160	60		135 ohm	M9164A1021	
M934A1227	M9164D1009				160°	24	35	160	60		135 ohm	M9164D1009	
M934A1235	M9164D1009	198162GA			160°	220	35	160	60		135 ohm	M9164A1088	
M934A1243	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1050	Wire M9164C1050 to 24 Vac
M934A1250	M9164D1009	198162EA	220736B		160°	120	35	160	60	2	135 ohm	M9164C1050	
M934A1268	M9164D1009	198162AA	220736B		160°	240	35	160	60	2	135 ohm	None	
M934A1276	M9164D1009	198162GA	220736B		160°	220	35	160	60	2	135 ohm	None	
M934A1284	M9164D1009	198162EA			160°	120	35	160	60		135 ohm	M9164A1021	
M934A1292	M9164D1009	198162EA	220736B		160°	120	35	160	60	2	135 ohm	M9164C1050	
M934A1300	M9164D1009	198162AA			90°	240	35	90	30		135 ohm	None	York Special
M934A1318	M9164D1009	198162EA	220736B		90°	120	35	90	30	2	135 ohm	M9164C1068	
M934A1326	M9164D1009	198162EA			90°	120	35	90	30		135 ohm	M9164A1005	Carrier Special
M934A1334	M9164D1009				90°	24	35	90	30		135 ohm	None	
M934A1342	M9164D1009				160°	24	35	160	60		135 ohm	M9164A1021	Wire M9164A1021 to 24 Vac
M934A1359	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1050	Wire M9164C1050 to 24 Vac

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M934A1367	M9164D1009	198162EA		Q209E	160°	120	35	160	60		135 ohm	None	Carrier Special
M934A1375	M9164D1009	198162AA			160°	240	35	160	60		135 ohm	None	
M934A1383	M9164D1009	198162AA			160°	240	35	160	60		135 ohm	M9164A1013	For use with W899A systems
M934A1391	M9164D1009	198162EA			90°	120	35	90	35		135 ohm	M9164A1005	
M934A1409	M9164D1009				90°	24	35	90	35		135 ohm	None	
M934A1425	M9164D1009				160°	24	35	160	60		135 ohm	M9164A1021	Use with W899A,E,F systems; Wire M9164A1021 to 24 Vac
M934A1433	M9164D1009	198162AA	220736B		160°	240	35	160	60	2	135 ohm	None	For use with W899A systems
M934A1441	M9164D1009	198162EA			160°	120	35	160	60		135 ohm	M9164A1021	
M934A1458	M9164D1009				90°	24	35	90	35		135 ohm	None	
M934A1466	M9164D1009				90°	24	35	90	35		135 ohm	None	
M934A1474	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1050	Wire M9164C1050 to 24 Vac
M934A1482	M9164D1009	198162EA	220736B		160°	120	35	160	60	2	135 ohm	M9164C1050	
M934A1490	M9164D1009			Q209E	160°	24	35	160	60		135 ohm	None	Carrier Special
M934A1508	M9164D1009	198162AA			160°	240	35	160	60		135 ohm	None	Use with W899A systems
M934A1516	M9164D1009	198162EA	220736A		90°	120	35	90	35	1	135 ohm	M9164C1068	
M934A1524	M9164D1009				160°	24	35	160	60		135 ohm	M9164A1021	Wire M9164A1021 to 24 Vac
M934A1532	M9164D1009	198162AA			90°	240	35	90	35		135 ohm	None	
M934A1540	M9164D1009	198162EA			90°	120	35	90	35		135 ohm	M9164A1005	York Special
M934A1557	M9164D1009	198162AA			160°	208/240	35	160	60		135 ohm	None	G.E. Special
M934A1565	M9164D1009	198162EA	220736A		90°	120	35	90	35	1	135 ohm	M9164C1068	Reset aux. switch
M934A1573	M9164D1009	198162EA			160°	120	35	160	60		135 ohm	M9164A1021	Carrier Special
M934A1599	M9164D1009			Q209E	160°	24	35	160	60		135 ohm	None	
M934B1036	M6284D1000				90°	24	35	90	35		Series 62	M6284F1013	No internal balance circuit, requires Q181 when using R927
M934C1001	M9164D1009	198162EA		Q181A1004	90°	120	35	90	35		135 ohm	M9164A1005 +Q181A1004	Nesbitt Special; Q181 for Nesbitt Relay Driver
M934D1000	M9174D1007	198162EA	220736A		160°	120	75	160	60	1	135 ohm	M9174B1043	
M934D1018	M9174D1007	198162EA	220736B		160°	120	75	160	60	2	135 ohm	M9174C1033	
M934D1026	M9174D1007	198162EA	220736A		90°	120	75	90	35	1	135 ohm	M9174B1027 + 220738A	

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M934D1034	M9174D1007	198162EA	220736B		90°	120	75	90	35	2	135 ohm	M9174C1025	
M934D1042	M9174D1007	198162EA	220736B		90°	120	75	90	35	2	135 ohm	None	Clever Brooks Special
M934D1059	M9174D1007	198162EA	220736A		90°	120	75	90	35	1	135 ohm	None	
M934E1009	M9174D1007				160°	24	75	160	60		135 ohm	M9174B1043	Remove transformer
M934E1017	M9174D1007	198162EA			160°	120	75	160	60		135 ohm	M9174B1043	
M934E1025	M9174D1007	198162EA			90°	120	75	90	35		135 ohm	M9174B1043	
M941A1008	None					24	75	90/160	15/30		135 ohm	M9484D1002	Shipped in 160° position
M941A1016	None					24	150	90/160	30/60		135 ohm	M9484D1010	Tapped aux shaft, Shipped in 160° position
M941A1024	None					24	150	90/160	60/120		135 ohm	M9484D1002	Shipped in 160° position
M941A1032	None					24	150	90/160	30/60		135 ohm	M9484D1010	Tapped aux shaft; Shipped in 90° position
M941A1040	None					24	37	90/160	7.5/15		135 ohm	None	Special timing
M941A1057	None					24	75	90/160	15/30		135 ohm	M9484D1002	Shipped in 90° position
M941A1065	None					24	75	90/160	15/30		135 ohm	M9484D1002	International Shipped in 160° position
M941A1073	None					24	150	90/160	30/60		135 ohm	M9484D1010	Tapped aux shaft; International Shipped in 90° position
M941A1081	None					24	150	90/160	30/60		135 ohm	M9484D1010	Tapped aux shaft; International Shipped in 160° position
M941A1099	None					24	150	90/160	60/120		135 ohm	M9494D1000	International Shipped in 90° position
M941A1107	None					24	37	90/160	7.5/15		135 ohm	None	Special timing shipped in 90° position
M941A4002	None					24	150	90/160	30/60		135 ohm	M9484D1010	Canada Special; Tapped aux shaft
M941B1007	None					24	150	90/160	30/60		Series 62	M6284F1013	No internal balance circuit
M941B1015	M6284D1000					24	50	90/160	30/60		Series 62	None	
M941C1006	None					24	75	90/160	15/30	1	135 ohm	M9484E1009	Shipped in 160° position
M941C1014	None					24	150	90/160	30/60	1	135 ohm	M9484E1017	Tapped aux shaft; Shipped in 160° position
M941C1022	None					24	150	90/160	30/60	1	135 ohm	M9484E1033	Shipped in 90° position
M941C1030	None					24	150	90/160	30/60	1	135 ohm	M9484E1033	Tapped aux shaft, aux switch set to 7°; Shipped in 90° position, switch set at 4°, with crankarm
M941C1048	None					24	150	90/160	30/60	1	135 ohm	M9484E1033	Aux. switch set at 4°, with crankarm; Shipped in 90° position.

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M941C1055	None					24	150	90/160	30/60	1	135 ohm	M9484E1033	Tapped aux shaft, aux. switches set to 4°; International, shipped in 90° position, with tapped shaft
M941C1063	None					24	150	90/160	30/60	1	135 ohm	M9484E1033	Tapped aux shaft, replaced model includes crank arm; Tapped shaft
M941C1089	None					24	150	90/160	30/60	1	135 ohm	None	Cleaver Brooks Special, Tapped aux shaft
M941C4000	None					24	150	90/160	30/60	1	135 ohm	M9484E1017 + 220741A	Canada Special, Tapped aux shaft, aux switch set at 5°, tapped shaft
M941C4018	None					24	150	90/160	30/60	1	135 ohm	M9484E1017 + 220741A	Canada Special, Tapped aux shaft, aux switch set at 30°, tapped shaft
M941D1005	None					24	150	90/160	30/60	2	135 ohm	M9484F1007	Aux switched set to 7°/57°; Shipped in 90° position, switches set at 5°/54°, no tapped shaft
M941D1013	None					24	150	90/160	30/60	2	135 ohm	M9484F1007	Tapped aux shaft, aux. switch set to 7°/57°; Shipped in 90° position, Switches set at 5°/54°, crankarm, no tapped shaft
M941D1021	None					24	75	90/160	15/30	2	135 ohm	M9484F1023	Tapped aux shaft, shipped in 160° position
M941D1039	None					24	150	90/160	30/60	2	135 ohm	M9484F1031	Tapped aux shaft, aux switches set to 5°/54°; tapped shaft, shipped in 90° position
M941D1047	None					24	150	90/160	30/60	2	135 ohm	M9484F1049	Tapped aux shaft, aux switches set to 35°/120°
M941D1054	None					24	150	90/160	30/60	2	135 ohm	M9484F1031	Tapped aux shaft, aux switches set to 5°/54°; International, Shipped in 90° position
M941D1062	None					24	150	90/160	30/60	2	135 ohm	M9484F1031	Tapped aux shaft, aux switches set to 90°/107°; International
M941D1070	None					24	150	90/160	30/60	2	135 ohm	M9484F1007	Cleaver Brooks Special; Tapped aux shaft, aux switches set to 5°/54°
M941D1112	None					120	300	90/160	60/120	2	135 ohm	None	Aux. switches to 7°/57°
M941D4009	None					24	150	90/160	30/60	2	135 ohm	M9484F4001	Canada Special, requires 220741A, switch preset at 5°/54°;
M941D4017	None					24	75	90/160	15/30	2	135 ohm	M9484F4019	Tapped aux shaft, aux. shaft set to 5°/54°
M941E1012	None					24	75	160	30		135 ohm	M9484D1002	International
M941E1038	None					24	150	160	60		135 ohm	M9484D1010	
M941E1046	None					24	150	160	60		135 ohm	M9484D1010	
M941E1053	None					24	150	90	60		135 ohm	None	
M941E1061	None					24	75	90	60		135 ohm	None	

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M943A1004	None					24	40	240	90	2	135 ohm	None	Singer Special, 240° stroke
M944A1002	M9184D1013				160°	24	150	160	60		135 ohm	M9184A1019	
M944A1010	M9184D1021				160°	24	150	160	60		135 ohm	M9184A1019	
M944A1028	M9184D1021				90°	24	150	90	30		135 ohm	M9184A1035	
M944A1036	None					24	37	160	15		135 ohm	None	
M944A1044	None					24	37	310	15		135 ohm	None	
M944A1051	M9184D1013				90°	24	75	90	30		135 ohm	M9184F1000	Univac Special
M944A1069	M9184D1013	198162EA			90°	120	75	90	30		135 ohm	M9184F1000	Requires 198162AA
M944A1119	None					24	37	335	15		135 ohm	None	No 335° stroke motors
M944A1127	None					24	75	335	30		135 ohm	None	
M944A1150	M9184D1013				160°	24	150	160	120		135 ohm	M9194D1003	Chrysler Special, check timing
M944A1168	M9184D1013				160°	24	150	160	60		135 ohm	M9184A1019	
M944A1176	M9184D1013				160°	24	150	160	60		135 ohm	M9184A1019	
M944A1192	M9184D1013				90°	24	75	90	30		135 ohm	M9184F1000	Nesbitt Special
M944B1001	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000	No internal balance circuit, requires Q181 when using R927
M944B1019	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000	
M944B1027	None					24	37	160	15		Series 62	None	
M944B1035	M6284D1000				160°	24	150	160	240		Series 62	None	
M944B1043	M6284D1000				90°	24	75	90	30		Series 62	M6284A1055	No internal balance circuit, check timing and stroke, requires Q181 when using R927
M944B1167	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000	
M944B1175	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000	
M944B1183	M6284D1000				160°	24	37	160	15		Series 62	M6284D1000	
M944B1191	M6294D1008				160°	24	300	160	240		Series 62	None	No internal balance circuit, requires Q181 when using R927
M944B1209	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000	
M944B1241	M6294D1008		220736A		160°	24	150	160	240	1	Series 62	None	
M944B4005	M6284D1000				ADJ	24	75	90/160	15/30		Series 62	M6284D1000	Canada Special, no internal balance circuit, requires Q181 when using R927

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M944C1000	M9184D1021				ADJ	24	75	90/160	15/30		135 ohm	M9184D1005	M9184D is 30/60 sec timing
M944C1018	M9194D1003				ADJ	24	300	90/160	120/240		135 ohm	M9194D1003	
M944C1042	M9184D1021				ADJ	24	150	90/160	30/60		135 ohm	M9184D1013	
M944C1059	M9194D1003		220736A		ADJ	24	300	90/160	120/240	1	135 ohm	M9194E1000	
M944C4004	M9184D1013				ADJ	24	150	90/160	30/60		135 ohm	M9184D1013	Canada Special
M944C4012	M9184D1021				ADJ	24	150	90/160	120/240		135 ohm	M9194D1003	
M944D1009	M9184D1013		220736B		ADJ	24	150	90/160	30/60	2	135 ohm	M9184F1000	
M944D1017	M9184D1021		220736B		ADJ	24	150	90/160	30/60	2	135 ohm	M9184F1000	
M944E1008	M6284D1000		220736B		ADJ	24	75	90/160	15/30	2	Series 62	None	M6284 is 30/60 sec timing, No internal balance circuit
M944E1016	M6284D1000		220736B		ADJ	24	150	90/160	30/60	2	Series 62	M6284F1013	No internal balance circuit
M944E1024	M6284D1000		220736B		ADJ	24	150	90/160	30/60	2	Series 62	M6284F1013	Set aux switches at 4°/54°, no internal balance circuit
M944E1032	M6284D1000		220736B		ADJ	24	75	90/160	15/30	2	Series 62	None	Replaced motor is 2X faster, No internal balance circuit
M944E1040	M6284D1000		220736B		ADJ	24	150	90/160	30/60	2	Series 62	M6284F1013	No internal balance circuit
M944E1057	M6284D1000		220736B		ADJ	24	150	90/160	30/60	2	Series 62	M6284F1013	Set aux switches at 4°/54°, no internal balance circuit
M944E1081	M6284D1000		220736B		90°	24	75	90	30	2	Series 62	M6284F1013	Set aux switches at 42°/48°, no internal balance circuit
M944E1099	M6284D1000		220736B		90°	24	150	90	30	2	Series 62	M6284F1013	No internal balance circuit
M944F1007	M9184D1013				160°	24	150	160	60		135 ohm	M9184A1019	Use Q181 for slaved motor applications
M944G1006	M9184D1013		220736B		160°	24	150	160	60	2	Series 62	M9184F1000	
M944G1014	M9184D1013		220736B		160°	24	150	160	60	2	Series 62	M9184F1000	
M944G1022	M6284D1000	198162EA			160°	120	150	160	60		Series 62	M6284A1048	No internal balance circuit, change control circuit to 24 Vac
M944G1030	M6284D1000	198162EA			90°	120	150	90	30		Series 62	M6284A1055	
M944G1048	M6284D1000	198162EA			160°	120	150	160	60		Series 62	M6284A1048	
M944G1055	M6284D1000	198162EA			160°	120	150	160	240		Series 62	None	No internal balance circuit
M944G1063	M6284D1000	198162EA			160°	120	150	160	60		Series 62	M6284A1048	No internal balance circuit, change control circuit to 24 Vac
M944G1071	M6284D1000	198162EA			90°	120	150	90	30		Series 62	M6284A1055	
M944G1089	M6284D1000	198162EA			160°	120	150	160	60		Series 62	M6284A1048	
M944G1097	M6284D1000	198162EA			90°	120	150	90	30		Series 62	M6284A1055	

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Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal			
M944G1105	M6294D1008	198162EA			160°	120	300	160	240		Series 62	None	No internal balance circuit	
M944G1121	M6294D1008	198162EA	220736A		160°	120	300	160	240	1	Series 62	None		
M944H1013	M6284D1000	198162EA	220736A		160°	120	150	160	60	1	Series 62	M6284F1013	No internal balance circuit, change control circuit to 24 Vac; Requires 198162EA	
M944H1021	M6284D1000	198162EA	220736A		160°	120	150	160	60	1	Series 62	M6284F1013		
M944H1039	M6284D1000	198162EA	220736A		160°	120	150	160	60	1	Series 62	M6284F1013 + 198162EA	York Special, no internal balance circuit, change control circuit to 24 V	
M944H1047	M6284D1000	198162EA	220736A		160°	120	150	160	60	1	Series 62	M6284F1013 + 198162EA	No internal balance circuit; Change control circuit to 24V	
M944H1062	M6294D1008	198162EA	220736A		160°	120	150	160	240	1	Series 62	None	Trane Special, no internal balance circuit	
M944J1002	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000	No internal balance circuit, requires Q181 for aux. pot and when using R927	
M944J1051	M6284D1000				160°	24	150	160	60		Series 62	M6284D1000		
M944K1001	M6284D1000	198162EA	220736B		160°	120	150	160	60	2	Series 62	M6284F1013	No internal balance circuit, change control circuit to 24 Vac; Requires 198162EA	
M944K1019	M6284D1000	198162EA	220736B		160°	120	150	160	60	2	Series 62	M6284F1013		
M944L1018	M9184D1013	198162EA			ADJ	120	150	90/160	120/240		135 ohm	None		
M944N1024	M9184D1021		220736A		160°	24	75	160	30	1	135 ohm	M6184D1001 + Q607A1050	Tapped shaft	
M944N1032	M9184D1021		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034		
M944N1040	M9184D1021		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034		
M944N1057	M9184D1021		220736A		160°	24	150	160	60	1	135 ohm	M9184F1034		
M944N1065	M9184D1021		220736A		160°	24	75	160	30	1	135 ohm	M6184D1001		M9184D is 60 sec at 160° stroke; Tapped shaft; Requires Q607A1050
M944N1073	M9184D1021		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034		Tapped shaft
M944N1081	M9184D1021		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034		
M944P1014	M9184D1021		220736B		90°	24	150	90	30	2	135 ohm	M9184F1034		
M944P1022	M9184D1021		220736B		90°	24	150	90	30	2	135 ohm	M9184F1034		
M944P1030	M9184D1021		220736B		90°	24	150	90	30	2	135 ohm	M9184F1034		
M944P1048	M9184D1021		220736B		90°	24	150	90	30	2	135 ohm	M9184F1034		
M944R1012	M6294D1008	198162EA	220736A		160°	120	150	160	120	1	Series 62	None	Carrier Special; Check timing and stroke, requires Q181 when using R927	
M944R1020	M6294D1008	198162EA	220736B		160°	120	150	160	120	2	Series 62	None		

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M944S1001	M6284D1000	198162EA	220736B		ADJ	120	75	90/160	15/30	2	Series 62	None	M6284 is 30/60 sec timing, No internal balance circuit
M944S1019	M6284D1000	198162EA	220736B		ADJ	120	150	90/160	30/60	2	Series 62	M6284F1013	No internal balance circuit; Requires 198162EA
M944S1027	M6284D1000	198162EA	220736B		ADJ	120	150	90/160	30/60	2	Series 62	M6284F1013	
M945A1009	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	
M945A1017	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	
M945A1025	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	Less power supply cord
M945A1033	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	
M945A1066	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	For use with W899B systems
M945A1074	M9185D1004				90°	24	50	90	35		135 ohm	M9185A1026	
M945A1082	M9185D1004				90°	24	50	90	35		135 ohm	M9185A1026	
M945A1090	M9185D1004				160°	24	50	160	60		135 ohm	M9185D1004	
M945A1108	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	York Special
M945A1116	M9185D1004				90°	24	50	90	35		135 ohm	M9185A1026	
M945A1124	M9185D1004				90°	24	50	90	35		135 ohm	M9185A1026	Nesbitt Special
M945A1157	M9185D1004				ADJ	24	50	90/160	30/60		135 ohm	M9185D1004	
M945A4003	M9185D1004				ADJ	24	50	90/160	30/60		135 ohm	M9185D1004	Canada Special
M945AA1007	M9185D1004		220736B		90°	24	50	90	60	2		None	Nesbitt Special, N.O. mech.; M9185D is 30 sec., 90° stroke, use aux. end
M945AB1005	M9185D1004		220736A		90°	24	50	90	60	1		None	Nesbitt Special; M9185 is 30 sec at 90° stroke
M945AB1013	M9185D1004		220736A		90°	24	50	90	60	1		None	
M945AD1001	M6285A1013				90°	24	25	90	60		Series 62	None	Trane Special, No internal balance circuit
M945B1057	M6285A1005				160°	24	50	160	60		Series 62	M6285A1005	No internal balance circuit, requires Q181 when using R927
M945B1065	M6285A1013				90°	24	50	90	30		Series 62	M6285A1013	
M945B1073	None					24	50	90	30		Series 62	None	Nesbitt Special, includes 1.0K ohm feedback pot
M945B1081	None					24	50	160	60		Series 62	None	
M945B1115	M6285A1013	198162EA			90°	120	50	90	30		Series 62	None	Trane Special, no internal balance circuit
M945B4002	M6285A1005				160°	24	50	160	60		Series 62	M6285A1005	Canada Special, no internal balance circuit, requires Q181 when using R927

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M945C1007	M6285A1005		220736B		160°	24	50	160	60	2	Series 62	M6285C1001	No internal balance circuit, requires Q181 when using R927
M945C1015	M6285A1005		220736B		160°	24	50	160	60	2	Series 62	M6285C1001	
M945C1031	M6285A1013		220736A		90°	24	50	90	30	1	Series 62	None	
M945D1006	M9185D1004		220736B		160°	24	50	160	60	2	135 ohm	M9185C1006	
M945D1030	None					24	50	160	60	2	135 ohm	None	
M945D1048	None					24	50	160	60	2	135 ohm	None	
M945E1005	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	Q181: slaved motor application Add Q181 for slaved motor applications
M945E1013	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	
M945F1004	M9185D1004				160°	24	50	160	60		135 ohm	M9186G1006	Use aux. motor end; N.O.
M945F1038	M9185D1004				160°	24	50	160	60		135 ohm	M9186G1006	Use aux. motor end; For use with W899M systems, N.O.
M945F1046	M9185D1004	198162AA			160°	208	50	160	60		135 ohm	None	Use aux. motor end; N.O.
M945F1053	M9185D1004				160°	24	50	160	60		135 ohm	M9186G1006	York Special, N.O.; Use aux. motor end
M945F4008	M9185D1004				160°	24	50	160	60		135 ohm	M9186G1006	Canada Special, N.O.; Use aux. motor end
M945G1003	M6285A1005				160°	24	50	160	60		Series 62	M6285A1005	Use aux. motor end; No internal balance circuit, requires Q181 when using R927
M945G1037	M6285A1005				160°	24	50	160	60		Series 62	M6285A1005t	
M945G1045	None					24	50	160	60		Series 62	None	Includes 1.8K ohm feedback pot
M945G1052	None					220	50	160	60		Series 62	None	IBM Special, N.O., 100K-ohm pot.
M945H1002	M9185D1004		220736B		160°	24	50	160	60	2	135 ohm	M9185C1006	M945H includes internal heater
M945H1010	M9185D1004		220736B		160°	24	50	160	60	2	135 ohm	M9185C1006	
M945J1009	M9185D1004		220736A		160°	24	50	160	60	1	135 ohm	M9185C1006	
M945J1017	M9185D1004		220736A		160°	24	50	160	60	1	135 ohm	M9185C1006	Less power supply cord
M945J1025	M9185D1004		220736B		160°	24	50	160	60	2	135 ohm	M9185C1006	
M945J1033	M9185D1004	198162EA	220736B		160°	120	50	160	60	2	135 ohm	None	
M945K1008	M6285A1005		220736B		160°	24	50	160	60	2	Series 62	M6285C1001	No internal balance circuit
M945K1016	M6285A1005		220736B		160°	24	50	160	60	2	Series 62	M6285C1001	
M945L1007	M6285A1005				160°	24	50	160	60		Series 62	M6285A1005	No internal balance circuit, requires Q181 when using R927
M945L1015	M6285A1005				160°	24	50	160	60		Series 62	M6285A1005	

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M945M1006	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	
M945M1022	M9185D1004	198162AA			160°	208/240	50	160	60		135 ohm	None	G.E. Special
M945M1030	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	Use with W899C systems
M945M1048	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	
M945Y1002	M6285A1005			Q181A1004	160°	24	50	160	60		Series 62	M6285A1005	Add Q181 for slaved motor applications
M945Y1010	None					24	50	90	60		135 ohm	None	Nesbitt Special
M945Z1001	M9185D1004		220736B		160°	24	50	160	60	2	135 ohm	M9186G1006	N.O.; Requires Q607B1067
M945Z1019	M9185D1004	198162AA			160°	208/240	50	160	60		135 ohm	None	N.O.
M954A1001	M9184D1021				ADJ	24	150	90/160	30/60		135 ohm	M9184D1021	
M954A1019	M9184D1021				ADJ	24	150	90/160	30/60		135 ohm	M9184D1021	
M954A1027	M9184D1021				ADJ	24	150	90/160	30/60		135 ohm	M9184D1021	
M954A1035	M9184D1021				ADJ	24	150	90/160	30/60		135 ohm	M9184D1021	
M954B1000	M9184D1021		220736B		160°	24	150	160	60	2	135 ohm	M9184F1034	
M954B1018	M9184D1021		220736B		90°	24	150	90	30	2	135 ohm	M9184C1031	
M954B1026	M9184D1021		220736B		90°	24	150	90	30	2	135 ohm	M9184C1031	
M954B1034	M9184D1021		220736B		90°	24	150	90	30	2	135 ohm	M9184C1031	
M954B1042	M9184D1021		220736B		90°	24	150	90	30	2	135 ohm	M9184C1031	
M954B1059	M9184D1013	198162EA	220736B		160°	120	75	160	30	2	135 ohm	M9184D1005	
M954B1067	M9184D1021		220736B		160°	24	150	160	60	2	135 ohm	M9184F1034	
M954B1075	M9184D1013		220736B		90°	24	150	90	30	2	135 ohm	None	Cleaver Brooks Special

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M954C1009	M9184D1013		220736A		160°	24	75	160	30	1	135 ohm	M9184D1005	
M954C1017	M9184D1021		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034	
M954C1025	M9184D1021		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034	
M954C1033	M9184D1021		220736A		160°	24	150	160	60	1	135 ohm	M9184F1034	
M954C1041	M9184D1013		220736A		160°	24	75	160	30	1	135 ohm	M9184D1005	
M954C1058	M9184D1021		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034	
M954C1066	M9184D1013		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034	
M954C1074	M9184D1021		220736A		160°	24	150	160	60	1	135 ohm	M9184F1034	
M954C1082	M9184D1013		220736A		90°	24	75	90	30	1	135 ohm	M9184F1034	Cleaver Brooks Special
M954C4003	M9184D1021		220736A		ADJ	24	150	90/160	30/60	1	135 ohm	None	Canada Special, aux. switch set at 120°
M954D1008	M9184D1013		220736B		ADJ	24	150	90/160	30/60	2	135 ohm	M9184F1034	
M954D1016	M9184D1021		220736B		ADJ	24	150	90/160	30/60	2	135 ohm	M9184F1034	
M954G1052	None					220	50	160	60		Series 62	None	IBM Special, N.O., 100K-ohm pot.
M955A1008	M9185D1004				ADJ	24	50	90/160	30/60		135 ohm	M9185D1004	
M955A1016	M9185D1004				ADJ	24	50	90/160	30/60		135 ohm	M9185D1004	
M955A1024	M9185D1004				ADJ	24	50	90/160	30/60		135 ohm	M9185D1004	
M955A1032	M9185D1004				ADJ	24	50	90/160	30/60		135 ohm	M9185D1004	
M955B1007	M9185D1004		220736B		ADJ	24	50	90/160	30/60	2	135 ohm	M9185E1019 +Q607A1050	
M955C1006	M9185D1004		220736A		ADJ	24	50	90/160	30/60	1	135 ohm	M9185E1019	
M955C1014	M9185D1004		220736A		ADJ	24	50	90/160	30/60	1	135 ohm	M9185E1019	
M955C4000	M9185D1004		220736A		ADJ	24	50	90/160	30/60	1	135 ohm	M9185E1019	Canada Special, Tapped shaft; TRADELINE shaft not tapped
M955D1005	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	
M955D1013	M9185D1004				90°	24	50	90	30		135 ohm	M9185A1026	
M955D1039	M9185D1004	198162EA			90°	120	50	90	30		135 ohm	None	
M955D1047	M9185D1004				90°	24	50	90	30		135 ohm	M9185A1026	Lennox Special
M955D1054	M9185D1004				90°	24	50	90	30		135 ohm	M9184A1035	York Special

Table 3. Modutrol I, II, III Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications						Functional Replacement	Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Control Signal		
M955E1004	M9185D1004	198162EA	220736A		90°	120	50	90	30	1	135 ohm	None	
M955E1012	M9185D1014	198162EA	220736A	Q209E	90°	120	50	90	30	1	135 ohm	None	Trane Special, includes Q209C
M965A1007	M9175D1014				160°	24	25	160	40		135 ohm	M9175D1014	
M965A1015	M9175D1014				160°	24	25	160	40		135 ohm	M9175D1014	For use with W963B systems
M965A1023	M9175D1014	198162EA			160°	120	25	160	40		135 ohm	None	
M965A1031	M9175D1014	198162EA			90°	120	25	90	23		135 ohm	None	York Special
M965A1049	M9175D1014	198162EA			90°	120	25	90	23		135 ohm	M9175D1014	Requires 198162EA
M965A1064	M9175D1014				90°	24	25	90	23		135 ohm	M9175D1014	No balance relay
M965A1072	M9175D1014				90°	24	25	90	23		135 ohm	M9175D1014	Trane Special
M965B1006	M9175D1014		220736B		160°	24	25	160	40	2	135 ohm	None	
M965B1014	M9175D1014	198162AA	220736B		90°	240	25	90	23	2	135 ohm	None	
M965B1022	M9175D1014		220736A		90°	24	25	90	23	1	135 ohm	None	
M965B1030	M9175D1014		220736B		160°	24	25	160	40	2	135 ohm	None	Reznor Special
M975A1006	M9175D1014				160°	24	25	160	40		135 ohm	M9175D1014	
M975A1014	M9175D1014				90°	24	25	90	23		135 ohm	M9175D1014	
M975A1022	M9175D1014	198162EA			160°	120	25	160	40		135 ohm	M9175D1014	Requires 198162EA
M975A1030	M9175D1014	198162EA		Q209E	90°	120	25	90	23		135 ohm	None	Trane Special
M975A1055	M9175D1014	198162EA		Q209E	160°	120	25	160	40		135 ohm	None	Carrier Special
M975A1071	M9175D1014				160°	24	25	160	40		135 ohm	M9175D1014	
M975A1089	M9175D1014				160°	24	25	160	40		135 ohm	M9175D1014	
M975A1097	M9175D1014	198162EA			160°	120	25	160	40		135 ohm	M9175D1014	Requires 198162EA
M975B1005	M9175D1014		220736B		160°	24	25	160	40	2	135 ohm	None	
M975B1013	M9175D1014	198162AA	220736B		160°	240	25	160	40	2	135 ohm	None	
M975B1021	M9175D1014	198162EA	220736A	Q209E	90°	120	25	90	23	1	135 ohm	None	Trane Special
M975B1039	M9175D1014	198162EA	220736B	Q209E	160°	120	25	160	40	2	135 ohm	None	Carrier Special
M975B1047	M9175D1014	198162EA	220736B		90°	120	25	90	23	2	135 ohm	None	Trane Special, aux. switches set at 35°
M975B1062	M9175D1014	198162EA	220736B		90°	120	25	90	23	2	135 ohm	None	Reznor Special, aux. switches set at 35°

MODUTROL IV MOTORS TO MODUTROL IV MOTORS

This section cross references Modutrol IV Motors to Modutrol IV Motors. Please refer to the Application Notes section for specific comments.

Cross Reference Format

Information contained in individual rows refer to the motor listed in the OS # to be Replaced column unless otherwise noted in the Comments column. Following is an example of the format used in this section and explanations of each column.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

1. Lists the original motor to be replaced.
2. Lists the Modutrol IV TRADELINE Replacement Motor. This TRADELINE motor may require configuration with the accessories listed in columns 3 through 8.
3. Specifies which internal mount transformer, if any, is required to match the original motor voltage. The transformer choices are:
 - a. 198162AA – 120/208/240 Vac, 50/60 Hz (multi-tap).
 - b. 198162EA – 120 Vac, 50/60 Hz.
 - c. 198162GA – 220 Vac, 50/60 Hz.
 - d. 198162JA – 24 Vac, 50/60 Hz (isolation).
4. Specifies which field-addable auxiliary switch, if any, is required to match the original motor. The switch kit choices are:
 - a. 220736A – one spdt switch and mounting bracket.
 - b. 220736B – two spdt switches and mounting bracket.
5. Specifies which accessory parts or devices, if any, are required to complete the replacement. Items include Weatherproofing Kits, Minimum Position Potentiometers, and linkages. Check the original application to ensure that you account for all modifications of the original motor.
6. Specified stroke setting of the Modutrol IV TRADELINE Motor. 12 of the 14 TRADELINE models have adjustable stroke. The remaining two (M6285A) are fixed stroke. "ADJ" listed here indicates the original motor also had adjustable stroke. Check the application to duplicate the original stroke requirements.
7. Specifies the original motor auxiliary switch setting that was factory set. Check the application to make sure that the original factory stroke setting was not changed in the field. Motors shipped with specific stroke settings have adjustable auxiliary switches, and there is possibility that the original setting was changed.
8. Lists the voltage of the original motor.
9. Lists the torque rating of the original motor.
10. Lists the full stroke rotation of the original motor (closed to open) in angular degrees. Two values with a "-" indicate a range of adjustment available in the field.
11. Lists the timing of the original motor. If two or adjustable stroke is listed in column 10, the time refers to a 160 degree stroke.
12. Lists the number of auxiliary switches, if any in the original motor.
13. Lists number of motor shafts on the original motor. Choices are 1 or 2. All motors have the power end shaft, when listed as 1, the auxiliary end shaft of the original motor is not present.
14. Indicates that a 220738A Adapter Bracket is shipped with the Modutrol IV Motor. Reflects presence as of 1999 date codes. If the original motor used the adapter bracket, it may be reused with the replacement motor. If required for replacement of Modutrol I, II, III or competitive Motors, it must be ordered separately.
15. Lists the control signal of the motor. The listing can specify either an actual value of signal input, or a "Series" designation. Please refer to the Application Notes section in this manual.
16. Lists the functional Modutrol IV Motor replacement. In some cases, the replacement will have additional features not found in the original motor. This column may also specify "+" and an accessory. This indicates a minor addition to the functional replacement will provide the functionality required in the application.
17. Comments listed in this column provide additional information to consider when replacing the original motor. Consider differences carefully prior to installation of the Modutrol IV TRADELINE Motor.

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M4172A1006	M8185D1006	198162EA			160		120	25	160	60		1		Series 41	M4185A1001	
M4172B1004	M8185D1006	198162EA	220736A		160		120	25	160	60	1	1		Series 41	M4185B1009	
M4175D1015	M8185D1006	198162EA			ADJ		120	25	90/160	30/60		2		Series 41	None	
M4175E1012	M8185D1006	198162EA	220736A		ADJ		120	25	90/160	30/60	1	2		Series 41	None	
M4182A1004	M8185D1006	198162EA			160		120	60	160	60		1		Series 41	M4185A1001	
M4182B1002	M8185D1006	198162EA	220736A		160		120	60	160	60	1	1		Series 41	M4185B1009	
M4182B1010	M8185D1006	198162AA	220736A		160		Multi	60	160	60	1	1		Series 41	M4185B1017	
M4182B1028	M8185D1006	198162GA	220736A		160		220	60	160	60	1	1		Series 41	None	
M4182B1036	M8185D1006	198162EA	220736A		90		120	60	90	30	1	1		Series 41	M4185B1058	
M4182B1044	M8185D1006	198162AA	220736A		90		Multi	60	90	30	1	1		Series 41	M4185B1058	
M4182B1051	M8185D1006	198162EA	220736A	4074ERU	90		120	60	90	30	1	1		Series 41	M4185B1058	With weatherproof kit; Requires 4074ERU
M4182B1069	M8185D1006	198162EA	220736A	4074ERU	160		120	60	160	60	1	1		Series 41	M4185B1009	
M4185A1001	M8185D1006	198162EA			160		120	60	160	60		2		Series 41	M4185A1001	
M4185A1019	None						120	60	180	67		2		Series 41	None	
M4185A1027	M8185D1006	198162EA			160		120	60	160	60		2		Series 41	M4185A1001	
M4185B1009	M8185D1006	198162EA	220736A		160		120	60	160	60	1	2		Series 41	M4185B1009	
M4185B1017	M8185D1006	198162AA	220736A		160		Multi	60	160	60	1	2		Series 41	M4185B1017	
M4185B1025	M8185D1006	198162GA	220736A		160		220	60	160	60	1	2	YES	Series 41	None	
M4185B1033	M8185D1006	198162EA	220736A		160		120	60	160	60	1	2		Series 41	M4185B1009	
M4185B1041	M8185D1006	198162AA	220736A		160		Multi	60	160	60	1	2	YES	Series 41	M4185B1017	
M4185B1058	M8185D1006	198162AA	220736A		90		Multi	60	90	30	1	2		Series 41	M4185B1058	
M4185B1066	M8185D1006	198162EA	220736A		90		120	60	90	30	1	2		Series 41	M4185B1058	
M4185B1074	M8185D1006	198162GA	220736A		160		220	60	160	60	1	2		Series 41	None	
M4185C1007	M8185D1006	198162EA	220736B		90		120	60	90	30	2	2		Series 41	None	
M4185D1013	M8185D1006	198162EA			ADJ		120	60	90/160	30		2		Series 41	None	
M4185E1010	M8185D1006	198162EA	220736A		ADJ	120°	120	60	90/160	30	1	2		Series 41	None	

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M4185E4006	M8185D1006	198162AA	220736A		ADJ	120°	Multi	60	90/160	30/60	1	2	YES	Series 41	None	Canada TRADELINE
M4185E4014	M8185D1006	198162EA	220736A		ADJ	120°	120	60	90/160	30/60	1	2	YES	Series 41	None	Canada TRADELINE
M4186H1005	M8185D1006	198162EA	220736A		160		120	60	160	60	1	2	YES	Series 41	M4185B1009	Use auxiliary shaft
M4186H4009	M8185D1006	198162EA	220736A		160		120	60	160	60	1	2	YES	Series 41	None	Canada, use auxiliary shaft
M4186L4000	M8185D1006	198162EA	220736A		ADJ		120	60	90/160	30/60	1	2	YES	Series 41	None	
M6161A1004	M6184D1035	198162EA			90		120	35	90	30		1		Series 61	M6184A1015	
M6161B1002	M6184D1035	198162EA	220736A		90		120	35	90	30	1	1		Series 61	None	
M6174A1009	M6184D1035				160		24	75	160	60		2		Series 61	None	Includes aux. switch cams
M6174D1003	M6184D1035	198162EA			ADJ		120	75	90/160	30/60		2		Series 61	M6184D1035	
M6181A1000	M6184D1035				160		24	150	160	60		1		Series 61	None	Less junction box
M6181A1018	M6184D1035				160		24	150	160	60		1		Series 61	None	
M6181A1026	M6184D1035				90		24	150	90	30		1		Series 61	M6184A1015	
M6181A1034	M6184D1035	198162EA			160		120	75	160	30		1		Series 61	M6184A1023	
M6181A1042	M6184D1035	198162EA			160		120	150	160	60		1		Series 61	None	
M6181A1059	M6184D1035				160		24	150	160	60		1		Series 61	None	Carrier
M6181D1004	M6184D1035				ADJ		24	75	90/160	15/30		1		Series 61	M6184D1001	
M6181F1009	M6184D1035		220736B		ADJ		24	150	90/160	30/60	2	1		Series 61	M6184F1014	
M6181F1017	M6184D1035	198162AA	220736B		ADJ	70°/70°	Multi	150	90/160	30/60	2	1		Series 61	M6184F1014	Replacement requires 198162AA
M6182D1003	None						24	60	90/160	15/60		1		Series 61	None	Carrier
M6182D1011	None						24	60	90/160	Select		1		Series 61	None	
M6182F1008	None					12°/40°	24	60	90/160	15/60	2	1		Series 61	None	
M6182F1016	None						24	60	90/160	30/60	2	1		Series 61	None	With weatherproof kit
M6184A1007	M6184D1035				160		24	150	160	60		2		Series 61	None	
M6184A1015	M6184D1035				90		24	150	90	30		2		Series 61	M6184A1015	
M6184A1023	M6184D1035	198162EA			160		120	75	160	30		2		Series 61	M6184A1023	
M6184A1031	M6184D1035				160		24	150	160	60		2		Series 61	None	Carrier

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M6184A1049	M6184D1035	198162EA			160		120	75	160	30		2		Series 61	M6184A1023	
M6184A1056	M6184D1035				90		24	150	90	30		2		Series 61	None	Trane
M6184B1005	M6184D1035	198162EA	220736A		90	7°	120	150	90	120	1	2	YES	Series 61	None	
M6184B1013	M6184D1035	198162EA	220736A		90	7°	120	150	90	120	1	2		Series 61	None	Trane
M6184B1021	M6184D1035		220736A		160		24	150	160	60	1	2		Series 61	M6184F1014	
M6184D1001	M6184D1035				ADJ		24	75	90/160	15/30		2		Series 61	M6184D1001	
M6184D1035	M6184D1035				ADJ		24	150	90/160	30/60		2	YES	Series 61	M6184D1035	TRADELINE
M6184D1050	M6184D1035				ADJ		24	75	90/160	15/30		2		Series 61	M6184D1001	
M6184D1068	M6184D1035				ADJ		24	150	90/160	120/240		2		Series 61	M6184D1068	
M6184D1076	M6184D1035				ADJ		24	150	90/160	30/60		2		Series 61	None	Trane
M6184F1006	M6184D1035		220736B		ADJ		24	150	90/160	30/60	2	2	YES	Series 61	M6184F1014	
M6184F1014	M6184D1035		220736B		ADJ		24	150	90/160	30/60	2	2		Series 61	M6184F1014	
M6185D1000	None						24	60	90/160	30/60		2		Series 61	None	
M6191A1008	M6194D1017	198162EA			160		120	300	160	120		1		Series 61	None	
M6191B1006	M6194D1017		220736A		90	7°	24	300	90	60	1	1		Series 61	M6194B1011	
M6191D1002	M6194D1017				ADJ		24	300	90/160	120/240		1		Series 61	M6194D1017	
M6191D1010	M6194D1017	198162EA			ADJ		120	300	90/160	120/240		1	YES	Series 61	None	York
M6194A1005	M6194D1017	198162EA			90		120	300	90	120		2		Series 61	None	
M6194A1021	M6194D1017				160		24	300	160	120		2		Series 61	None	With aux. switch cams
M6194B1003	M6194D1017		220736A		90	7°	24	300	90	60	1	2	YES	Series 61	M6194B1011	
M6194B1011	M6194D1017		220736A		90	7°	24	300	90	60	1	2		Series 61	M6194B1011	
M6194B1029	M6194D1017	198162EA	220736A		90	7°	120	300	90	120	1	2		Series 61	M6194E1006	Requires 198162EA
M6194B1037	M6194D1017	198162EA	220736A		90		120	300	90	120	1	2		Series 61	None	Trane
M6194B1045	M6194D1017	198162EA	220736A		90		120	300	90	120	1	2		Series 61	M6194E1006	Requires 198162EA
M6194D1017	M6194D1017				ADJ		24	300	90/160	120/240		2	YES	Series 61	M6194D1017	TRADELINE
M6194D1025	M6194D1017				ADJ		24	300	90/160	120/240		2		Series 61	None	Lennox

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications										Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal			
M6194D1033	M6194D1017				ADJ		24	300	90/160	120/240		2		Series 61	None	York	
M6194D1041	M6194D1017			220741A	ADJ		24	300	90/160	120/240		2		Series 61	None	Japan, includes 220741A	
M6194D4003	M6194D1017				ADJ		24	300	90/160	120/240		2	YES	Series 61	M6194D1017	Canada TRADELINE	
M6194E1006	M6194D1017		220736A		ADJ		24	300	90/160	120/240	1	2		Series 61	M6194E1006		
M6194E1014	M6194D1017		220736A	4074ERU	ADJ		24	300	90/160	120/240	1	2	YES	Series 61	M6194E1006 + 4074ERU	Includes weatherproof kit	
M6194F1004	M6194D1017		220736B		ADJ		24	300	90/160	120/240	2	2		Series 61	None		
M6281A1009	M6284D1000				160		24	150	160	60		1		Series 62	M6284A1048		
M6281F1008	M6284D1000		220736B		ADJ	7°/57°	24	150	90/160	30/60	2	1		Series 62	M6284F1013		
M6281F1016	M6284D1000	198162EA	220736B		ADJ		120	150	90/160	30/60	2	1		Series 62	M6284F1013	Requires 198162EA	
M6282A1008	M6285A1005				160		24	60	160	60		1		Series 62	M6285A1005		
M6282A1016	M6285A1013	198162EA			90		120	60	90	30		1		Series 62	None	Trane	
M6282A1024	M6285A1013				90		24	25	90	60		1		Series 62	None		
M6282A1032	M6285A1005	198162EA			160		120	60	160	60		1		Series 62	None		
M6282B1006	M6285A1013		220736A		90		24	60	90	30	1	1		Series 62	None		
M6282E1009	None					20°	24	60	90/160	15/60	1	1		Series 62	None	Carrier	
M6284A1006	M6284D1000				160		24	150	160	60		2		Series 62	M6284A1048		
M6284A1014	M6284D1000	198162EA			160		120	150	160	60		2	YES	Series 62	M6284A1048		
M6284A1022	M6284D1000	198162EA			90		120	150	90	30		2	YES	Series 62	M6284A1055		
M6284A1030	M6284D1000			220741A	160		24	150	160	60		2	YES	Series 62	None	Japan, includes 220741A	
M6284A1048	M6284D1000	198162EA			160		120	150	160	60		2		Series 62	M6284A1048		
M6284A1055	M6284D1000	198162EA			90		120	150	90	30		2		Series 62	M6284A1055		
M6284A1063	M6284D1000	198162EA		220741A	160		120	150	160	60		2		Series 62	M6284A1048 + 4074ERU	Includes 220741A	
M6284A1071	M6284D1000	198162EA		220741A	90		120	150	90	30		2		Series 62	M6284A1055		
M6284A1089	M6284D1000	198162EA		220741A	90		120	75	90	15		2		Series 62	None		
M6284A1097	M6284D1000				90		24	150	90	30		2		Series 62	M6284A1055		

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M6284B1004	M6294D1008	198162EA	220736A		160	7°	120	150	160	240	1	2		Series 62	None	Trane
M6284C1002	M6284D1000		220736B		90		24	150	90	30	2	2		Series 62	M6284F1013	
M6284C1010	M6284D1000		220736B	220741A	90	42°/48°	24	150	90	30	2	2		Series 62	None	Includes 220741A
M6284C1028	M6284D1000		220736B	220741A	90		24	150	90	30	2	2	YES	Series 62	None	Japan, includes 220741A
M6284C1036	M6284D1000	198162EA	220736B	4074ERU	160		120	150	160	60	2	2		Series 62	None	Includes weatherproof kit
M6284C1044	M6284D1000	198162EA	220736B	4074ERU	90		120	150	90	30	2	2		Series 62	None	
M6284D1000	M6284D1000				ADJ		24	150	90/160	30/60		2	YES	Series 62	M6284D1000	TRADELINE
M6284D1026	M6284D1000			220741A	ADJ		24	150	90/160	30/60		2		Series 62	None	Includes 220741A
M6284D4004	M6284D1000				ADJ		24	150	90/160	30/60		2	YES	Series 62	M6284D1000	Canada TRADELINE
M6284F1005	M6284D1000		220736B		ADJ	7°/57°	24	150	90/160	30/60	2	2		Series 62	M6284F1013	
M6284F1013	M6284D1000		220736B		ADJ		24	150	90/160	30/60	2	2		Series 62	M6284F1013	
M6284F1021	M6284D1000	198162EA	220736B		ADJ		120	150	90/160	30/60	2	2	YES	Series 62	M6284F1013	Requires 198162EA
M6284F1039	M6284D1000		220736B	220741A	ADJ		24	150	90/160	30/60	2	2	YES	Series 62	M6284F1013	Japan, includes 220741A
M6284F1047	M6284D1000	198162EA	220736B		ADJ		120	150	90/160	30/60	2	2		Series 62	M6284F1013	Requires 198162EA
M6284F1054	M6284D1000	198162GA	220736B		ADJ		220	150	90/160	30/60	2	2		Series 62	None	
M6285A1005	M6285A1005				160		24	60	160	60		2	YES	Series 62	M6285A1005	TRADELINE
M6285A1013	M6285A1013				90		24	60	90	30		2	YES	Series 62	M6285A1013	
M6285A1021	M6285A1013	198162EA			90		120	60	90	30		2		Series 62	None	
M6285A1039	None						24	25	90	60		2		Series 62	None	Trane
M6285A1047	M6285A1005			220741A	160		24	60	160	60		2	YES	Series 62	None	Japan, includes 220741A
M6285A1054	M6285A1005	198162EA			160		120	60	160	60		2		Series 62	None	Snyder General
M6285A4009	M6285A1005				160		24	60	160	60		2	YES	Series 62	M6285A1005	Canada TRADELINE
M6285B1003	M6285A1013		220736A		90		24	60	90	30	1	2		Series 62	None	
M6285C1001	M6285A1005		220736B		160		24	60	160	60	2	2		Series 62	M6285C1001	
M6286G1001	M6285A1005				160		24	60	160	60		2		Series 62	M6285A1005	Use auxiliary shaft
M6286G1019	M6285A1005	198162GA			160		220	60	160	60		2		Series 62	None	

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M6286G1027	M6285A1005			220741A	160		24	60	160	60		2	YES	Series 62	M6285A1005 + 4074ERU	Japan, includes 220741A, use auxiliary shaft
M6294A1004	M6294D1008	198162EA			160		120	300	160	240		2		Series 62	None	
M6294B1002	M6294D1008		220736A		160		24	300	160	240	1	2	YES	Series 62	None	
M6294B1010	M6294D1008	198162EA	220736A		160		120	300	160	240	1	2		Series 62	None	
M6294B1028	M6294D1008	198162EA	220736A		160	7°	120	300	160	240	1	2		Series 62	None	Trane
M6294B1036	M6294D1008		220736A		160		24	300	160	120	1	2		Series 62	None	
M6294C1000	M6294D1008	198162EA	220736B	220741A	90		120	300	90	60	2	2		Series 62	None	Includes 220741A
M6294D1008	M6294D1008				ADJ		24	300	90/160	120/240		2	YES	Series 62	M6294D1008	
M7161A1002	M9164D1009	198162EA		Q7130A1006	90		120	35	90	30		1		6-9 Vdc	None	
M7161B1000	M9164D1009	198162EA	220736A	Q7130A1006	160	20°	120	35	160	60	1	1		6-9 Vdc	None	
M7161B1018	M9164D1009	198162EA	220736A	Q7130A1006	160	20°	120	35	160	60	1	1		6-9 Vdc	None	Trane
M7161G1009	M9164D1009	198162EA		Q7130A1006	90		120	35	90	30		1		10.5-13.5 Vdc	M7164G1030	
M7161G1017	M9164D1009	198162EA		Q7130A1006	90		120	35	90	30		1		4-7 Vdc	None	
M7161G1025	M9164D1009			Q7130A1006	160		24	35	160	60		1		4-7 Vdc	None	
M7164A1009	M9164D1009			Q7130A1006	160		24	35	160	60		2	YES	4-7 Vdc	None	
M7164A1017	M9164D1009	198162JA		Q7130A1006	90		24	35	90	30		2		10.5-13.5 Vdc	M7164A1017	
M7164A1025	M9164D1009			Q7130A1006	90		24	35	90	30		2		10.5-13.5 Vdc	None	
M7164A1033	M9164D1009			Q7130A1006	160		24	35	160	60		2		10.5-13.5 Vdc	None	
M7164A1041	M9164D1009			Q7130A1006	160		24	35	160	60		2		4-7 Vdc	None	
M7164A1058	M9164D1009	198162JA		Q7130A1006	90		24	35	90	30		2		10.5-13.5 Vdc	M7164A1017	
M7164B1007	M9164D1009	198162EA	220736A	Q7130A1006	160	20°	120	35	160	60	1	2	YES	6-9 Vdc	None	
M7164G1006	M9164D1009	198162EA		Q7130A1006	90		120	35	90	30		2	YES	10.5-13.5 Vdc	M7164G1030	
M7164G1014	M9164D1009	198162EA		Q7130A1006	90		120	35	90	30		2	YES	4-7 Vdc	None	
M7164G1022	M9164D1009			Q7130A1006	160		24	35	160	60		2	YES	4-7 Vdc	None	
M7164G1030	M9164D1009	198162EA		Q7130A1006	90		120	35	90	30		2		10.5-13.5 Vdc	M7164G1030	
M7183G1003	M9185D1004			Q7130A1006	160		24	60	160	60		1		4-7 Vdc	M7185A1004	

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications								Functional Replacement	TRADELINE Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack			Control Signal
M7184A1005	M9184D1013			Q7130A1006	160		24	150	160	60		2	YES	4-7 Vdc	None	
M7184A1013	None						120	150	90	30		2		0.8-3.3 Vdc	None	
M7184A1021	None						24	150	90	30		2		0.8-3.3 Vdc	None	
M7185A1004	M9185D1004			Q7130A1006	160		24	60	160	60		2		4-7 Vdc	M7185A1004	
M7186G1000	M9185D1004			Q7130A1006	160		24	60	160	60		2	YES	4-7 Vdc	M7185A1004	Use auxiliary shaft
M7261A1001	M9164D1009	198162EA		Q7230A1005	160		120	35	160	60		1		2-10 Vdc	None	Trane
M7272A1008	M9175D1014	198162EA		Q7230A1005	90		120	25	90	30		2		2-10 Vdc	None	
M7274A1006	M9174D1007			Q7230A1005	160		24	75	160	60		2		2-10 Vdc	M7274A1006	
M7274G1003	M9174D1007			Q7230A1005	160		24	75	160	60		2		2-10 Vdc	M7274A1006	
M7281A1007	M9184D1013	198162EA		Q7230A1005	90		120	150	90	30		1		4-20 mA	M7284A1004	Includes 220741A
M7281C1003	M9184D1013	198162EA	220736B	Q7230A1005	90		120	150	90	30	2	1		4-20 mA	M7284C1000	
M7281C1011	M9184D1013	198162EA	220736B	Q7230A1005	160		120	150	160	60	2	1		4-20 mA	M7284C1018	
M7281Q1002	M9184D1013	198162EA	220736B	Q7230A1005	90		120	150	90	30	2	1		4-20 mA	M7284Q1009	Includes 203709D
M7282A1006	M9185D1004	198162EA		Q7230A1005	90		120	60	90	30		1		4-20 mA	M7285A1003	Includes 220741A
M7282A1014	M9185D1004	198162EA		Q7230A1005	90		120	60	90	30		1		2-10 Vdc	None	Trane
M7282A1022	None						24	60	90	30		1		2-10 Vdc	None	Trane, with wiring harness
M7282B1004	M9185D1004	198162EA	220736A	Q7230A1005	90	25°	120	60	90	30	1	1		2-10 Vdc	None	Trane
M7282B1012	M9185D1004		220736A	Q7230A1005	90	25°	24	60	90	30	1	1		2-10 Vdc	None	
M7282C1002	M9185D1004	198162EA	220736B	Q7230A1005	90	35°/80°	120	60	90	30	2	1		2-10Vdc	None	
M7282D1000	None						24	60	90/160	15/60		1		4-20 mA	None	Carrier, with 205118A
M7282D1018	None						24	60	90/160	15/60		1		4-20 mA	None	
M7282F1005	None					13°/35°	24	60	90/160	15/60	2	1		4-20 mA	None	Carrier, 205118A and crank arm

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M7284A1004	M9184D1013	198162EA		Q7230A1005	90		120	150	90	30		2		4-20 mA	M7284A1004	Includes 220741A
M7284A1012	M9184D1013	198162EA		Q7230A1005	160		120	150	160	60		2		4-20 mA	M7284A1012	
M7284A1020	M9184D1013	198162EA		Q7230A1005	160		120	150	160	60		2		4-20 mA	M7284A1012	
M7284A1038	M9184D1013	198162EA		Q7230A1005	90		120	75	90	15		2		4-20 mA	M7284A1038	
M7284A1046	M9184D1013	198162EA		Q7230A1005	90		120	150	90	30		2		4-20 mA	M7284A1004	
M7284A1053	M9184D1013	198162EA		Q7230A1005	90		120	150	90	30		2		2-10 Vdc	None	Trane
M7284A1061	M9184D1013	198162EA		Q7230A1005	160		120	150	160	60		2		2-10 Vdc	None	
M7284A1079	M9184D1013			Q7230A1005	160		24	150	160	60		2		2-10 Vdc	M7284A1079	
M7284A1087	M9184D1013			Q7230A1005	90		24	150	90	30		2		2-10 Vdc	None	Trane
M7284C1000	M9184D1013	198162EA	220736B	Q7230A1005	90		120	150	90	30	2	2		4-20 mA	M7284C1000	Includes 220741A
M7284C1018	M9184D1013	198162EA	220736B	Q7230A1005	160		120	150	160	60	2	2		4-20 mA	M7284C1018	
M7284C1026	M9184D1013	198162EA	220736B	Q7230A1005	90		120	150	90	30	2	2		4-20 mA	M7284C1000	
M7284C1034	M9184D1013	198162EA	220736B	Q7230A1005	160		120	150	160	60	2	2		4-20 mA	M7284C1018	
M7284C1042	None						100/200	150	90	30	2	2		4-20 mA	None	International, incl.220741A
M7284C1059	None						24	150	90	30	2	2	YES	4-20 mA	M7284C1059	Enhanced
M7284C1067	None						24	150	90	30	2	2	YES	4-20 mA	M7284C1067	
M7284G1001	M9184D1013			Q7230A1005	160		24	150	160	60		2		2-10 Vdc	M7284A1079, use aux shaft	
M7284Q1009	M9184D1013	198162EA	220736B	Q7230A1005	90		120	150	90	30	2	2		4-20 mA	M7284Q1009	Includes 203709D
M7284Q1017	M9184D1013	198162EA	220736B	Q7230A1005	160		120	150	160	60	2	2	YES	4-20 mA	M7284Q1017	
M7284Q1025	None						100/200	150	90	30				4-20 mA	None	International, incl.203709D
M7284Q1033	None						24	150	90	30	2	2	YES	4-20 mA	M7284Q1033	Enhanced
M7284Q1041	None						24	150	160	60	2	2	YES	4-20 mA	M7284Q1041	
M7285A1003	M9185D1004	198162EA		Q7230A1005	90		120	60	90	30		2		4-20 mA	M7285A1003	Includes 220741A
M7285A1011	M9185D1004	198162EA		Q7230A1005	160		120	60	160	60		2		4-20 mA	M7285A1011	

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M7285A1029	M9185D1004			Q7230A1005	160		24	60	160	60		2		2-10 Vdc	None	
M7285A1037	M9185D1004			Q7230A1005	160		24	60	160	60		2		2-10 Vdc	None	
M7285A1045	M9185D1004			Q7230A1005	160		24	60	160	60		2		2-10 Vdc	M7285A1045	
M7285A1052	M9185D1004			Q7230A1005	90		24	60	90	30		2		2-10 Vdc	None	
M7285B1001	M9185D1004		220736A	Q7230A1005	90	25°	24	60	90	30	1	2		2-10 Vdc	None	Trane
M7285C1009	M9185D1004	198162EA	220736B	Q7230A1005	90		120	60	90	30	2	2		4-20 mA	M7285C1009	Includes 220741A
M7285C1017	M9185D1004	198162EA	220736B	Q7230A1005	160		120	60	160	60	2	2		4-20 mA	M7285C1017	
M7285C1025	M9185D1004		220736B	Q7230A1005	160		24	60	160	60	2	2		2-10 Vdc	None	
M7285C1033	M9185D1004		220736B	Q7230A1005	160		24	60	160	60	2	2		2-10 Vdc	None	
M7285Q1008	M9185D1004	198162EA	220736B	Q7230A1005	90		120	60	90	30	2	2		4-20 mA	M7285Q1008	Includes 203709D
M7285Q1016	M9185D1004	198162EA	220736B	Q7230A1005	160		120	60	160	60	2	2		4-20 mA	M7285Q1016	
M7286G1009	M9185D1004			Q7230A1005	160		24	60	160	60		2		2-10 Vdc	M7285A1045, use aux shaft	
M7294A1002	M9194D1003	198162EA		Q7230A1005	90		120	300	90	60		2		4-20 mA	M7294Q1007	Includes 220741A
M7294A1010	M9194D1003			Q7230A1005	160		24	300	160	120		2		2-10 Vdc	M7294A1010	
M7294G1009	M9194D1003			Q7230A1005	160		24	300	160	120		2		2-10 Vdc	M7294A1010, use aux shaft	
M7294Q1007	M9194D1003	198162EA	220736B	Q7230A1005	90		120	300	90	60	2	2		4-20 mA	M7294Q1007	Includes 203709D
M7361A1000	M9164D1009	198162EA		Q7330A1004	90		120	35	90	30		1		W936	None	
M7361A1018	None						24	35	160	60		1		W936	None	Liebert, with 203709B
M7364A1007	M9164D1009	198162EA		Q7330A1004	160		120	35	160	60		2	YES	W936	None	
M7364A1015	M9164D1009	198162EA		Q7330A1004	90		120	35	90	30		2	YES	W936	None	
M7364A1023	M9164D1009			Q7330A1004	160		24	35	160	60		2	YES	W936	None	
M7364A1031	None						24	35	160	60		2		W936	None	Liebert
M7381A1006	None						24	150	160	60		1		W936	None	Liebert, with 203709B board
M7382A1005	None						24	60	160	60		1		W936	None	Liebert

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Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M7384A1003	M9184D1013			Q7330A1004	160		24	150	160	60		2	YES	W936	None	
M7384A1011	M9184D1013			Q7330A1004	90		24	150	90	30		2		W936	None	
M7384A1029	None						24	150	160	60		2		W936	None	Liebert
M7385A1002	M9185D1004			Q7330A1004	90		24	60	90	30		2	YES	W936	None	
M7385A1010	M9185D1004	198162JA		Q7330A1004	160		24	60	160	60		2	YES	W936	None	Includes isolation transformer
M7385A1028	M9185D1004	198162EA		Q7330A1004	160		120	60	160	60		2		W936	None	
M7385A1036	M9185D1004			Q7330A1004	160		24	60	160	60		2	YES	W936	None	
M7385A1044	None						24	60	160	60		2		W936	None	Liebert
M7484A1002	None						24	150	90	30		2		BRCS	None	Cleaver Brooks
M7484A1010	None						24	150	90	30		2		BRCS	M7484A1010	
M7675A1001	M9175D1014			Q7630A1001	160		24	25	160	60		2		14-17 Vdc	None	
M7675A1019	M9175D1014	198162EA		Q7630A1001	90		120	25	90	30		2		14-17 Vdc	None	Trane
M7675G1008	M9175D1014			Q7630A1001	160		24	25	160	60		2		14-17 Vdc	None	
M7682A1010	None						24	60	160	60		1		14-17 Vdc	None	Includes Q209F1001
M7685A1009	M9185D1004			Q7630A1001	160		24	60	160	60		2		14-17 Vdc	None	
M7685A1017	M9185D1004			Q7630A1001	90		24	60	90	30		2	YES	14-17 Vdc	None	
M7685A1025	M9185D1004			Q7630A1001	90		24	60	90	30		2		14-17 Vdc	None	
M7685A1033	M9185D1004	198162EA		Q7630A1001	160		120	60	160	60		2		14-17 Vdc	None	York
M7685A1041	M9185D1004			Q7630A1001	90		24	60	90	30		2		14-17 Vdc	None	Lennox
M7685G1006	M9185D1004			Q7630A1001	90		24	60	90	30		2		14-17 Vdc	None	
M7964A1001	None						120	35	90	30		2	YES	Thermistor	M7964A1001	
M7964B1009	None						120	35	90	30		2	YES	Thermistor	M7964B1009	Nesbitt ITT
M7964B1017	None						120	35	160	60		2	YES	Thermistor	M7964B1017	
M7964C1007	None						120	35	90	30		2	YES	Thermistor	M7964C1007	

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications								Functional Replacement	TRADELINe Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack			Control Signal
M7964C1015	None						120	35	90	30		2	YES	Thermistor	M7964C1015	
M7964D1005	None						120	35	160	60		2		4-7 Vdc, 3W	None	
M7964D1013	None						24	35	160	60		2		4-7 Vdc, 3W	None	
M7975E1009	None						24	25	90	30		2		3.5-6.5 Vdc, 3W	None	
M7975E1017	None						24	25	90	30		2		3-6 Vdc, 3W	None	
M7983G1005	None						220	60	160	60		2		n/a	None	IBM
M7984D1001	None						24	150	160	60		2		4-7 Vdc, 3W	None	Includes 220741A
M7984N1008	None						24	150	90	30		2	YES	0-2.5 Vdc	None	
M7985D1000	None						24	60	160	60		2		4-7 Vdc, 3W	None	
M8175B1002	M8185D1006		220736A		160		24	25	160	60	1	2	YES	Series 81	None	
M8182A1005	M8185D1006				160		24	60	160	60		1		Series 81	M8185A1002	
M8182B1003	M8185D1006		220736A		160		24	60	160	60	1	1		Series 81	None	
M8182B1011	M8185D1006		220736A	4074ERU	160		24	60	160	60	1	1		Series 81	None	Includes weatherproof kit
M8185A1002	M8185D1006				160		24	60	160	60		2		Series 81	M8185A1002	
M8185A1010	None						24	60	160	60		2		Series 81	M8185A1010	
M8185A1028	None						24	60	160	60		2		Series 81	None	
M8185B1000	M8185D1006		220736A		160		24	60	160	60	1	2	YES	Series 81	None	
M8185B1018	None						24	60	160	60	1	2		Series 81	M8185A1010	
M8185B1026	None						24	60	160	60	1	2		Series 81	None	
M8185B1034	M8185D1006		220736A		160		24	60	160	60	1	2		Series 81	None	
M8185D1006	M8185D1006				ADJ		24	60	90/160	30/60		2	YES	Series 81	M8185D1006	TRADELINe
M8186G1008	M8185D1006				160		24	60	160	60		2		Series 81	None	Includes aux. switch cams, use aux. shaft
M9161A1008	M9164D1009	198162EA			160		120	35	160	60		1		135 ohm	M9164A1021	
M9161A1016	M9164D1009				160		24	35	160	60		1		135 ohm	M9164A1021	Wire to 24 Vac
M9161A1024	M9164D1009	198162EA			90		120	35	90	30		1		135 ohm	M9164A1005	
M9161A1032	M9164D1009	198162EA			160		120	35	160	60		1		135 ohm	None	Carrier

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Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M9161A1040	M9164D1009	198162EA		4074ERU	90		120	35	90	30		1		135 ohm	M9164A1005 + 4074ERU	Includes weatherproof kit
M9161C1004	M9164D1009		220736B		160		24	35	160	60	2	1		135 ohm	M9164C1050	Wire to 24 Vac
M9161C1012	M9164D1009	198162EA	220736B		90		120	35	90	30	2	1		135 ohm	M9164C1068	
M9161V1009	M9164D1009				160		24	35	160	60		1		135 ohm	None	Carrier
M9164A1005	M9164D1009	198162EA			90		120	35	90	30		2		135 ohm	M9164A1005	
M9164A1013	M9164D1009	198162AA			160		240	35	160	60		2		135 ohm	M9164A1013	
M9164A1021	M9164D1009	198162EA			160		120	35	160	60		2		135 ohm	M9164A1021	
M9164A1039	M9164D1009	198162EA			160		120	35	160	60		2		135 ohm	M9164A1021	
M9164A1047	M9164D1009	198162GA			160		220	35	160	60		2	YES	135 ohm	M9164A1088	
M9164A1054	M9164D1009	198162EA			90		120	35	90	30		2	YES	135 ohm	M9164A1005	
M9164A1062	M9164D1009				90		24	35	90	30		2	YES	135 ohm	M9164A1005	Wire to 24 Vac
M9164A1070	M9164D1009				160		24	35	160	60		2		135 ohm	M9164A1021	
M9164A1088	M9164D1009	198162GA			160		220	35	160	60		2		135 ohm	M9164A1088	
M9164A1096	M9164D1009	198162EA			160		120	35	160	60		2	YES	135 ohm	M9164A1021	
M9164A1104	M9164D1009	198162EA			160		120	35	160	60		2	YES	135 ohm	None	Carrier
M9164A1112	M9164D1009	198162AA			90		Multi	35	90	30		2		135 ohm	None	York
M9164A1120	M9164D1009				90		24	35	90	30		2		135 ohm	M9164A1005	Wire to 24 Vac
M9164A1138	M9164D1009	198162EA			160		120	35	160	60		2		135 ohm	None	Carrier
M9164B1003	M9164D1009	198162EA	220736A		90	7°	120	35	90	30	1	2		135 ohm	M9164C1068	
M9164C1001	M9164D1009		220736B		160		24	35	160	60	2	2	YES	135 ohm	M9164C1050	Wire to 24 Vac
M9164C1019	M9164D1009	198162EA	220736B		160		120	35	160	60	2	2	YES	135 ohm	M9164C1050	
M9164C1027	M9164D1009	198162AA	220736B		160		Multi	35	160	60	2	2	YES	135 ohm	None	
M9164C1035	M9164D1009	198162EA	220736B		90		120	35	90	30	2	2	YES	135 ohm	M9164C1068	
M9164C1043	M9164D1009	198162EA	220736B		160		120	35	160	60	2	2	YES	135 ohm	M9164C1050	
M9164C1050	M9164D1009	198162EA	220736B		160		120	35	160	60	2	2		135 ohm	M9164C1050	
M9164C1068	M9164D1009	198162EA	220736B		90		120	35	90	30	2	2		135 ohm	M9164C1068	

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications								Functional Replacement	TRADELINE Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack			Control Signal
M9164D1009	M9164D1009				ADJ		24	35	90/160	30/60		2	YES	135 ohm	M9164D1009	TRADELINE
M9164V1006	M9164D1009	198162EA			160		120	35	160	60		2		135 ohm	None	Carrier
M9164V1014	M9164D1009				160		24	35	160	60		2		135 ohm	None	
M9164V1022	M9164D1009			Q209E1010	160		24	35	160	60		2		135 ohm	None	Carrier, with Q209E, crank arm
M9171A1006	M9174D1007	198162EA			160		120	75	160	60		1		135 ohm	M9174B1043	
M9171B1004	M9174D1007	198162EA	220736A		160		120	75	160	60	1	1		135 ohm	M9174B1043	
M9171B1012	M9174D1007	198162EA	220736A		90	10°	120	75	90	30	1	1		135 ohm	M9174B1027	
M9171B1020	None						120	75	90	30	1	1		135 ohm	None	Cleaver Brooks
M9171C1002	M9174D1007	198162EA	220736B		90	7°/80°	120	75	90	30	2	1		135 ohm	M9174C1025	
M9171C1010	None					7°/57°	120	75	90	30	2	1		135 ohm	None	Cleaver Brooks
M9172A1005	M9175D1014				160		24	25	160	60		1		135 ohm	None	
M9172A1013	M9175D1014				160		24	25	160	60		1		135 ohm	None	
M9172A1021	M9175D1014				160		24	25	160	60		1		135 ohm	None	
M9172C1001	M9175D1014		220736B		160	35°/35°	24	25	160	60	2	1		135 ohm	None	Reznor
M9172W1004	M9175D1014	198162EA	220736A	Q209E1010	90	25°	120	25	90	30	1	1		135 ohm	None	Trane, with Q209E1010
M9172W1012	M9175D1014	198162EA	220736A		160	95°	120	25	160	60	1	1		135 ohm	None	Carrier
M9174B1001	M9174D1007	198162EA	220736A		160		120	75	160	60	1	2	YES	135 ohm	M9174B1043	
M9174B1019	M9174D1007	198162EA	220736A		90		120	75	90	30	1	2	YES	135 ohm	M9174B1027	Requires 220738A
M9174B1027	M9174D1007	198162EA	220736A		90		120	75	90	30	1	2		135 ohm	M9174B1027	
M9174B1035	None					7°	120	75	90	30	1	2		135 ohm	None	Cleaver Brooks
M9174B1043	M9174D1007	198162EA	220736A		160		120	75	160	60	1	2		135 ohm	M9174B1043	
M9174C1009	M9174D1007	198162EA	220736B		160		120	75	160	60	2	2	YES	135 ohm	M9174C1033	
M9174C1017	M9174D1007	198162EA	220736B		90	7°/80°	120	75	90	30	2	2	YES	135 ohm	M9174C1025	
M9174C1025	M9174D1007	198162EA	220736B		90	7°/80°	120	75	90	30	2	2		135 ohm	M9174C1025	
M9174C1033	M9174D1007	198162EA	220736B		160		120	75	160	60	2	2		135 ohm	M9174C1033	
M9174C1041	None					7°	120	75	90	30	2	2		135 ohm	None	

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M9174D1007	M9174D1007				ADJ		24	75	90/160	30/60		2	YES	135 ohm	M9174D1007	TRADELINE
M9175A1002	M9175D1014				160		24	25	160	60		2		135 ohm	None	
M9175A1010	M9175D1014			221455A	90		24	25	90	30		2		135 ohm	None	Includes crank arm
M9175A1028	M9175D1014				160		24	25	160	60		2		135 ohm	None	
M9175A1036	M9175D1014	198162EA			90		120	25	90	30		2	YES	135 ohm	None	York
M9175A1044	M9175D1014	198162EA			90		120	25	90	30		2		135 ohm	None	
M9175A1051	M9175D1014				90		24	25	90	30		2		135 ohm	None	
M9175A1069	M9175D1014				160		24	25	160	60		2		135 ohm	None	Carrier
M9175A1077	M9175D1014				90		24	25	90	30		2		135 ohm	None	Trane
M9175B1000	M9175D1014	198162EA	220736A		90	25°	120	25	90	30	1	2		135 ohm	None	
M9175C1008	M9175D1014		220736B		90	35°/35°	24	25	90	30	2	2		135 ohm	None	Reznor
M9175D1006	M9175D1014	198162EA			ADJ		120	25	90/160	30/60		2		135 ohm	M9175D1014	Requires 198162EA
M9175D1014	M9175D1014				ADJ		24	25	90/160	30/60		2	YES	135 ohm	M9175D1014	TRADELINE
M9175V1003	M9175D1014	198162EA			90		120	25	90	30		2		135 ohm	None	Trane
M9175V1011	None						120	25	160	60		2		135 ohm	None	Carrier, leadwires
M9175W1001	M9175D1014	198162EA	220736A		160	95°	120	25	160	60	1	2		135 ohm	None	Carrier
M9175W1019	M9175D1014	198162EA	220736A		90	25°	120	25	90	30	1	2		135 ohm	None	Trane
M9175Y1007	M9175D1014	198162EA	220736B		90	35°/35°	120	25	90	30	2	2		135 ohm	None	
M9181A1004	M9184D1013				160		24	150	160	60		1		135 ohm	M9184A1019	Less junction box
M9181A1012	M9184D1013				160		24	150	160	60		1		135 ohm	M9184A1019	
M9181A1020	M9184D1013				160		24	150	160	60		1		135 ohm	M9184A1019	
M9181A1038	M9184D1013				90		24	150	90	30		1		135 ohm	M9184A1035	
M9181B1002	M9184D1013		220736A		90	7°	24	150	90	30	1	1		135 ohm	M9184C1031	
M9181B1010	M9184D1013		220736A		160		24	150	160	60	1	1		135 ohm	None	
M9181B1028	None					7°	24	150	90	30	1	1		135 ohm	None	Cleaver Brooks
M9181C1000	None					7°/57°	24	150	90	30	2	1		135 ohm	None	

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications								Functional Replacement	TRADELINE Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack			Control Signal
M9181D1008	M9184D1013				ADJ		24	75	90/160	15/30		1		135 ohm	M9184D1005	
M9181D1016	M9184D1013				ADJ		24	150	90/160	120/240		1		135 ohm	None	Trane
M9181D1024	None						24	150	90/160	60/120/240		1		135 ohm	None	Special Timing
M9182A1003	M9185D1004				160		24	60	160	60		1		135 ohm	M9185A1018	Less junction box
M9182A1011	M9185D1004				160		24	60	160	60		1		135 ohm	M9185A1018	
M9182A1029	M9185D1004				90		24	60	90	30		1		135 ohm	M9185A1026	
M9182A1037	M9185D1004	198162EA			90		120	60	90	30		1		135 ohm	None	Trane
M9182A1045	M9185D1004				160		24	60	160	60		1		135 ohm	M9185A1018	
M9182A1052	M9185D1004			4074ERU	160		24	60	160	60		1		135 ohm	M9185A1018 + 4074ERU	Includes weatherproof kit
M9182A1060	M9185D1004	198162EA			90		120	60	90	30		1	YES	135 ohm	None	York
M9182C1009	M9185D1004		220736B		160		24	60	160	60	2	1		135 ohm	M9185C1006	
M9182C1017	M9185D1004		220736B		90		24	60	90	30	2	1		135 ohm	None	
M9182D1007	M9185D1004				ADJ		24	60	90/160	30/60		1		135 ohm	M9185D1004	Less junction box
M9182D1015	M9185D1004				ADJ		24	60	90/160	30/60		1		135 ohm	M9185D1004	
M9182D1023	None						24	60	90/160	60/120/240		1		135 ohm	None	Special Timing
M9182D1031	M9185D1004	198162AA		Q209E1010	ADJ		Multi	60	90/160	30/60		1		135 ohm	None	Includes Q209E
M9182D4001	M9185D1004				ADJ		24	60	90/160	30/60		1		135 ohm	M9185D1004	Canada
M9182W1002	M9185D1004	198162EA	220736A	Q209E1010	90	25°	120	60	90	30	1	1		135 ohm	None	Trane, includes Q209E
M9183G1009	M9185D1004				160		24	60	160	60		1		135 ohm	M9186G1006	Use auxiliary shaft
M9184A1001	M9184D1013				160		24	150	160	60		2		135 ohm	M9184A1019	
M9184A1019	M9184D1013				160		24	150	160	60		2		135 ohm	M9184A1019	
M9184A1027	M9184D1013				90		24	150	90	30		2	YES	135 ohm	M9184A1035	
M9184A1035	M9184D1013				90		24	150	90	30		2		135 ohm	M9184A1035	
M9184A1043	M9184D1013			220741A	160		24	150	160	60		2	YES	135 ohm	M9184A1019	Japan; replacement requires 220741A
M9184B1009	None					7°	24	150	90	30	1	2		135 ohm	None	Cleaver Brooks

MODUTROL IV™ MOTOR CROSS REFERENCE

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M9184B1017	M9184D1013		220736A		90	7°	24	150	90	30	1	2		135 ohm	M9184C1031	
M9184B1025	None					7°	120	150	90	30	1	2		135 ohm	None	Cleaver Brooks
M9184B1033	M9184D1021		220736A		160		24	150	160	60	1	2		135 ohm	M9184F1000	With tapped shaft
M9184B1041	M9184D1013		220736A	4074ERU	90	7°	24	150	90	30	1	2		135 ohm	M9184C1031	Includes weatherproof kit
M9184C1007	M9184D1021		220736B		90	7°/80°	24	150	90	30	2	2	YES	135 ohm	M9184C1031	With tapped shaft
M9184C1015	M9184D1021		220736B		160	7°/80°	24	150	160	60	2	2		135 ohm	None	
M9184C1023	None					7°/80°	24	150	90	30	2	2		135 ohm	None	Cleaver Brooks
M9184C1031	M9184D1021		220736B		90	7°/80°	24	150	90	30	2	2		135 ohm	M9184C1031	With tapped shaft
M9184C1049	None					7°/80°	120	150	90	30	2	2		135 ohm	None	Cleaver Brooks
M9184D1005	M9184D1013				ADJ		24	75	90/160	15/30		2		135 ohm	M9184D1005	
M9184D1013	M9184D1013				ADJ		24	150	90/160	30/60		2	YES	135 ohm	M9184D1013	TRADELINE
M9184D1021	M9184D1021				ADJ		24	150	90/160	30/60		2	YES	135 ohm	M9184D1021	TRADELINE, with tapped shaft
M9184D1039	M9184D1013			220741A	ADJ		24	75	90/160	15/30		2	YES	135 ohm	M9184D1005	Japan; replacement requires 220741A
M9184D1047	M9184D1013				ADJ		24	75	90/160	15/30		2		135 ohm	M9184D1005	
M9184D1054	M9194D1003				ADJ		24	150	90/160	120/240		2	YES	135 ohm	M9194D1003	
M9184D1062	M9184D1021				ADJ		24	150	90/160	30/60		2		135 ohm	M9184D1021	
M9184D4009	M9184D1013				ADJ		24	150	90/160	30/60		2	YES	135 ohm	M9184D1013	Canada, TRADELINE
M9184E4006	M9184D1021		220736A		ADJ	120°	24	150	90/160	30/60	1	2	YES	135 ohm	None	Canada, TRADELINE, tapped shaft
M9184F1000	M9184D1013		220736B		ADJ		24	150	90/160	30/60	2	2		135 ohm	M9184F1000	
M9184F1018	M9184D1021		220736B		ADJ		24	150	90/160	30/60	2	2	YES	135 ohm	M9184F1034	With tapped shaft
M9184F1026	M9184D1013		220736B	220741A	ADJ		24	150	90/160	30/60	2	2	YES	135 ohm	M9184F1000	Requires 220741A
M9184F1034	M9184D1021		220736B		ADJ		24	150	90/160	30/60	2	2		135 ohm	M9184F1034	With tapped shaft

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications									Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal		
M9185A1000	M9185D1004				160		24	60	160	60		2		135 ohm	M9185A1018	
M9185A1018	M9185D1004				160		24	60	160	60		2		135 ohm	M9185A1018	
M9185A1026	M9185D1004				90		24	60	90	30		2		135 ohm	M9185A1026	
M9185A1034	M9185D1004				160		24	60	160	60		2		135 ohm	M9185A1018	
M9185A1042	M9185D1004	198162EA			90		120	60	90	30		2		135 ohm	M9185A1026	Requires 198162EA
M9185A1059	M9185D1004				90		24	60	90	30		2		135 ohm	None	Lennox
M9185A1067	M9185D1004				90		24	60	90	30		2		135 ohm	None	York
M9185A1075	M9185D1004			220741A	160		24	60	160	60		2	YES	135 ohm	M9185A1018	Requires 220741A
M9185A1083	M9185D1004				160		24	60	160	60		2		135 ohm	M9185A1018	
M9185A1091	M9185D1004				90		24	60	90	30		2		135 ohm	M9185A1026	Less junction box
M9185B1008	M9185D1004	198162EA	220736A		90	30°	120	60	90	30	1	2		135 ohm	None	
M9185C1006	M9185D1004		220736B		160		24	60	160	60	2	2		135 ohm	M9185C1006	
M9185C1014	M9185D1004		220736B		160		24	60	160	60	2	2		135 ohm	None	
M9185C1022	M9185D1004		220736B		160		24	60	160	60	2	2		135 ohm	None	
M9185D1004	M9185D1004				ADJ		24	60	90/160	30/60		2	YES	135 ohm	M9185D1004	TRADELINE
M9185D1012	M9185D1004				ADJ		24	60	90/160	30/60		2		135 ohm	M9185D1004	
M9185D4008	M9185D1004				ADJ		24	60	90/160	30/60		2	YES	135 ohm	M9185D1004	Canada, TRADELINE
M9185E1001	M9185D1004		220736A		ADJ	30°	24	60	90/160	30/60	1	2	YES	135 ohm	M9185E1019	
M9185E1019	M9185D1004		220736A		ADJ	30°	24	60	90/160	30/60	1	2		135 ohm	M9185E1019	
M9185E4005	M9185D1004		220736A		ADJ	120°	24	60	90/160	30/60	1	2	YES	135 ohm	M9185D1004	Canada, TRADELINE, tapped shaft
M9185F1009	None					40°/85°	24	60	90/160	30/60	2	2		135 ohm	None	Carrier (W957G1006)
M9185W1017	M9185D1004	198162EA	220736A	Q209E1010	90	25	120	60	90	30	1	2		135 ohm	None	Trane, with Q209E
M9186G1006	M9185D1004				160		24	60	160	60		2		135 ohm	M9186G1006	Use auxiliary shaft
M9186G1014	M9185D1004			220741A	160		24	60	160	60		2	YES	135 ohm	M9186G1006	Japan, use auxiliary shaft
M9186G4000	M9185D1004				160		24	60	160	60		2	YES	135 ohm	M9186G1006	Canada, use auxiliary shaft

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications										Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack	Control Signal			
M9191D1006	M9194D1003				ADJ		24	300	90/160	120/240		1		135 ohm	M9194D1003		
M9191F1001	M9194D1003		220736B		ADJ	7°/57°	24	300	90/160	120/240	2	1		135 ohm	None		
M9194C1005	M9194D1003	198162EA	220736B		90	7°/80°	120	300	90	60	2	2		135 ohm	None		
M9194D1003	M9194D1003				ADJ		24	300	90/160	120/240		2	YES	135 ohm	M9194D1003	TRADELINE	
M9194D4007	M9194D1003				ADJ		24	300	90/160	120/240		2	YES	135 ohm	M9194D1003	Canada, TRADELINE	
M9194E1000	M9194D1003		220736A		ADJ		24	300	90/160	120/240	1	2		135 ohm	M9194E1000		
M9481D1005	None						24	150	90/160	30/60		1		135 ohm	M9484D1010		
M9481E1002	None						24	150	90/160	30/60	1	1		135 ohm	M9484E1017		
M9481F1000	None					7°/80°	24	150	90/160	30/60	2	1		135 ohm	M9484F1007		
M9484D1002	None						24	75	90/160	15/30		2		135 ohm	M9484D1002		
M9484D1010	None						24	150	90/160	30/60		2		135 ohm	M9484D1010	With tapped shaft	
M9484D1028	None						24	150	90/160	30/60		2	YES	135 ohm	M9484D1010		
M9484D1036	None						24	75	90/160	15/30		2	YES	135 ohm	M9484D1002		
M9484D1044	None						24	150	90/160	30/60		2		135 ohm	M9484D1010	With tapped shaft	
M9484D1051	None						24	150	90/160	30/60		2		135 ohm	M9484D1010		
M9484D4006	None						24	150	90/160	30/60		2	YES	135 ohm	M9484D1010	Canada, tapped shaft, 220741A	
M9484E1009	None						24	75	90/160	15/30	1	2		135 ohm	M9484E1009	With tapped shaft	
M9484E1017	None						24	150	90/160	30/60	1	2		135 ohm	M9484E1017		
M9484E1025	None						24	150	90/160	30/60	1	2	YES	135 ohm	M9484E1033		
M9484E1033	None					7°	24	150	90/160	30/60	1	2		135 ohm	M9484E1033		
M9484E1041	None					7°	24	150	90/160	30/60	1	2		135 ohm	M9484E1033	With 221455A	
M9484E1058	None					7°	24	150	90/160	30/60	1	2		135 ohm	M9484E1033		
M9484E1066	None						24	150	90/160	30/60	1	2		135 ohm	M9484E1033		
M9484E1074	None					7°	24	150	90/160	30/60	1	2		135 ohm	M9484E1033		

Table 4. Modutrol IV Cross Reference to Modutrol IV. (Continued)

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications					Original Motor Specifications								Functional Replacement	TRADELINE Comments	
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Stroke Setting	Aux. Switch Setting	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (sec)	Aux Sw	Motor Shafts	Adapt Brack			Control Signal
M9484E1082	None					7°	24	150	90/160	30/60	1	2		135 ohm	M9484E1033	With tapped shaft
M9484E1090	None						24	150	90/160	30/60	1	2		135 ohm	M9484E1017	
M9484E1116	None						24	75	90/160	15/30	1	2		135 ohm	M9484E1009	
M9484E4003	None					5°	24	150	90/160	30/60	1	2	YES	135 ohm	M9484E1017	Canada, tapped shaft, 220741A
M9484F1007	None					7°/80°	24	150	90/160	30/60	2	2		135 ohm	M9484F1007	With tapped shaft
M9484F1015	None					7°/80°	24	150	90/160	30/60	2	2		135 ohm	M9484F1007	
M9484F1023	None						24	75	90/160	15/30	2	2		135 ohm	M9484F1023	
M9484F1031	None					7°/80°	24	150	90/160	30/60	2	2		135 ohm	M9484F1031	With tapped shaft
M9484F1049	None					35°/120°	24	150	90/160	30/60	2	2		135 ohm	M9484F1049	
M9484F1056	None						24	75	90/160	15/30	2	2		135 ohm	M9484F1023	
M9484F1064	None					7°/80°	24	150	90/160	30/60	2	2		135 ohm	M9484F1031	With tapped shaft
M9484F1072	None					7°/80°	24	150	90/160	30/60	2	2		135 ohm	M9484F1007	
M9484F4001	None					54°/5°	24	150	90/160	30/60	2	2	YES	135 ohm	M9484F1007	
M9484F4019	None					54°/5°	24	75	90/160	15/30	2	2	YES	135 ohm	M9484F1023	Canada, tapped shaft, 220741A
M9491D1003	None						24	300	90/160	60/120		1		135 ohm	M9494D1000	
M9494D1000	None						24	300	90/160	60/120		2		135 ohm	M9494D1000	

MODUTROL IV ACCESSORIES

This section cross-references accessory parts for all Modutrol Motors. It provides detailed data about accessories. See the Application Notes section for details.

Cross Reference Format

Information contained in individual rows refers to the motor listed in the Accessory Part Number column unless otherwise noted. Following is an example of the format used in this section and explanations of each column.

Accessory Part Number	For Use With	Description	Works with Mod		Mod IV Equivalent	Comments
			III	IV		
1	2	3	4	5	6	7

1. The part number of the accessory to be replaced.
2. Accessory name and basic function.
3. Original use of or applications for the device.
4. Whether or not the original accessory works with a Modutrol III Motor.
5. Whether or not the original accessory works with a Modutrol IV Motor.
6. The Modutrol IV equivalent for use with Mod IV Motors.

NOTE: Not all Modutrol IV equivalents work with pre-Modutrol IV Motors. Cross-check the selected part to ensure proper operation in your application.

7. Additional information to consider when replacing an accessory. This column indicates special handling that is required. Consider differences carefully.

Table 5. Modutrol Motor Accessory Cross Reference.

Accessory Part Number	For Use With	Description	Works with Mod		Mod IV Equivalent	Comments
			III	IV		
27518	5/16 inch Rod	Ball Joint	Yes	Yes	27518	
101662A	Series 90 Mod Motors	Bracket, external damper mount	Yes	Yes	101662A	
104643A	Drive two dampers from one crank arm	Crank Arm Adapter	Yes	Yes	220767A	Requires 220738A for Mod IV
112894FB	Series 90 Motor	Remote Manual Potentiometer, 270 ohm	Yes	Yes	112894FB	
112894FD	Series 90 Motor	Remote Manual Potentiometer, 135 ohm	Yes	Yes	112894FD	
112894FE	Series 90 Motor	Remote Manual Potentiometer, 270 ohm, with wallplate	Yes	Yes	112894FE	
112894GB	Series 90 Motor	Remote Manual Potentiometer, 72 ohm	Yes	Yes	112894FE	
198162AA	Mod IV Motors	Internal Transformer, 120/208/240 Vac, 50/60 Hz	No	Yes	198162AA	
198162EA	Mod IV Motors	Internal Transformer, 120 Vac, 50/60 Hz	No	Yes	198162EA	
198162GA	Mod IV Motors	Internal Transformer, 220 Vac, 50/60 Hz	No	Yes	198162GA	
198162JA	Mod IV Motors	Internal Transformer, 24 Vac, 50/60 Hz, Isolation	No	Yes	198162JA	
220736A	Mod IV Tradeline Motors	Auxiliary Switch Kit, 1 Switch	No	Yes	220736A	
220736B	Mod IV Tradeline Motors	Auxiliary Switch Kit, 2 Switches	No	Yes	220736B	
203977A	Mod IV Motors with W859 Economizer	Economizer Adapter Kit	No	Yes	203977A	
220738A	Mod IV Motors to match Mod III shaft height	Adapter Bracket	No	Yes	220738A	
220741A	Mod IV Motors	Screw Terminal Adapter	No	Yes	220741A	
221455A	Dampers, Mod IV Motors	Infinitely Adjustable Crank Arm	Yes	Yes	221455A	
221508A	With 4074BYK, 4074EAU, 4074EDC, 4074EED	Resistor Board	No	Yes	221508A	
34343A	Dampers, Valves	Connecting Rod	Yes	Yes	34343A	
4074BYK	2-6 Series 90 in Unison	Resistor Kit - Series 90	Yes	Yes	221508A	
4074EAU	2-3 Series 90 from W973	Resistor Kit - W973	Yes	Yes	221508A	
4074EDC	1 Series 90 from 4 to 20 mA Controller	Resistor Kit - 4 to 20 mA	Yes	Yes	221508A	
4074EED	1 to 4 Series 90 from 4 to 20 mA Controller	Resistor Kit - 4 to 20 mA	Yes	Yes	221508A	
4074ELR	Dampers, 300 lb-in Mod III Motors	Heavy Duty Crank Arm	Yes	Yes	4074EQE	Requires 220738A for Mod IV
4074ELY	Dampers, Mod III Motors	Infinitely Adjustable Crank Arm	Yes	Yes	221455A	
4074ERU	Mod IV Motors	Weatherproof Kit	No	Yes	4074ERU	
4074EQE	Dampers, 300 lb-in Mod IV Motors	Heavy Duty Crank Arm	Yes	Yes	4074EQE	

Table 5. Modutrol Motor Accessory Cross Reference. (Continued)

Accessory Part Number	For Use With	Description	Works with Mod		Mod IV Equivalent	Comments
			III	IV		
4074EUB	W859F	Economizer Weatherproof Kit	No	Yes	4074EUB	
7616BR	Dampers, Mod IV Motors	Adjustable Crank Arm	Yes	Yes	7617ADW	Requires 220738A for Mod IV
7617ADW	Dampers, Mod IV Motors	Adjustable Crank Arm	Yes	Yes	7617ADW	
7617DM	Explosion Proof Housings	Coupling	Yes	Yes	7617DM	
7640QY	Mod Motors	Bracket, DR/ZR valve to Mod Motor	Yes	Yes	7640QY	
ES-650-117	Dampers, Mod IV Motors	Explosion Proof Housing Nelson Electric	Yes	Yes	ES-650-117	
ES-650-118	Dampers, Mod IV Motors	Explosion Proof Housing Nelson Electric	Yes	Yes	ES-650-118	Requires 220738A for Mod IV
Q100A1007	V51B Valves 1-1/2 to 2 inch	Valve Linkage	Yes	Yes	Q100A1007	
Q100A1015	V51B Valves 2-1/2 to 3 inch	Valve Linkage	Yes	Yes	Q100A1015	
Q100A1023	V51B Valves 4 inch	Valve Linkage	Yes	Yes	Q100A1023	
Q181A1007	Series 90 motors, includes cover	Auxiliary Potentiometer (1 Potentiometer)	Yes	Yes	Q181A1007	
Q181A1015	Series 90 motors, includes cover	Auxiliary Potentiometer (2 Potentiometer)	Yes	Yes	Q181A1015	
Q181A1064	Series 90 motors, does not include cover	Auxiliary Potentiometer (3 Potentiometer)	Yes	Yes	Q181A1064	
Q181A1072	Series 90 motors, does not include cover	Auxiliary Potentiometer (4 Potentiometer)	Yes	Yes	Q181A1072	
Q209E1002	Series 70 and 90 Mod IV Motors	Cover Mounted Minimum Position Pot 135 ohm	No	Yes	Q209E1002	
Q209E1010	Series 70 and 90 Mod IV Motors	Cover Mounted Minimum Position Pot 270 ohm	No	Yes	Q209E1010	
Q209F1001	Series 70 and 90 Mod IV Motors	Internal Minimum Position Pot 135 ohm	No	Yes	Q209F1001	
Q209F1019	Series 70 and 90 Mod IV Motors	Internal Minimum Position Pot 270 ohm	No	Yes	Q209F1019	
Q5001A1006	Valve Linkage, 80 lb, 3/4 in. lift, 1-3/8 in. bonnet	V5011, V5013 Valves	Yes	Yes	Q5001A1006	
Q5001A1014	Valve Linkage, 160 lb, 3/4 in. lift, 1-3/8 in. bonnet	V5011, V5013 Valves	Yes	Yes	Q5001A1014	
Q5001A1022	Valve Linkage, 320 lb, 3/4 in. lift, 1-3/8 in. bonnet	V5011, V5013 Valves	Yes	Yes	Q5001A1022	
Q5001B1004	Valve Linkage, 160 lb, 1-1/2 in. lift, 1-7/8 in. bonnet	V5011, V5013 Valves	Yes	Yes	Q5001B1004	
Q5001B1012	Valve Linkage, 320 lb, 1-1/2 in. lift, 1-7/8 in. bonnet	V5011, V5013 Valves	Yes	Yes	Q5001B1012	
Q5001D1000	Valve Linkage, 80/160 lb, 3/4 in. lift, 1-3/8 in. bonnet	V5011, V5013 Valves	Yes	Yes	Q5001D1000	
Q5001D1018	Valve Linkage, 160/320 lb, 3/4 in. lift, 1-3/8 in. bonnet	V5011, V5013 Valves	Yes	Yes	Q5001D1018	
Q5001D1026	Valve Linkage, 160/320 lb, 3/4 in. lift, 1-7/8 in. bonnet	V5011, V5013 Valves	Yes	Yes	Q5001D1026	
Q68B1005	Auxiliary Potentiometer 86.0 ohm	Series 90 Motors	Yes	Yes	Q68B1005	
Q68B1013	Auxiliary Potentiometer 58.0 ohm	Series 90 Motors	Yes	Yes	Q68B1013	

Table 5. Modutrol Motor Accessory Cross Reference. (Continued)

Accessory Part Number	For Use With	Description	Works with Mod		Mod IV Equivalent	Comments
			III	IV		
Q68B1039	Auxiliary Potentiometer 34.5 ohm	Series 90 Motors	Yes	Yes	Q68B1039	
Q7130A1006	Interface Module 4-7, 6-9, 10.5-13.5 Vdc	Series 90 Motors	No	Yes	Q7130A1006	
Q7230A1005	Interface Module 4-20 mA or 2-10 Vdc	Series 90 Motors	No	Yes	Q7230A1005	
Q7330A1004	Interface Module W936 Control Interface	Series 90 Motors	No	Yes	Q7330A1004	
Q7630A1001	Interface Module 14-17 Vdc with Min Position	Series 90 Motors	No	Yes	Q7630A1001	
S443A1007	Manual Potentiometer 135 ohm	Remote mount Series 90 motor manual control	Yes	Yes	S443A1007	
S963B1128	External Minimum Position Potentiometer 135 ohm	Series 90 Motors	Yes	Yes	S963B1128	
S963B1136	External Minimum Position Potentiometer 270 ohm	Series 90 Motors	Yes	Yes	S963B1136	
W859	Economizer Control	Series 90 Mod III	Yes	Yes	W9157	
W9157	Economizer Control	Series 90 Mod IV	No	Yes	W9157	

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