



## Modutrol IV™ Motor Cross Reference For Honeywell and Competitive Motors





# Modutrol IV™ Motor Cross Reference

## FOR HONEYWELL AND COMPETITIVE MOTORS

### CROSS REFERENCE

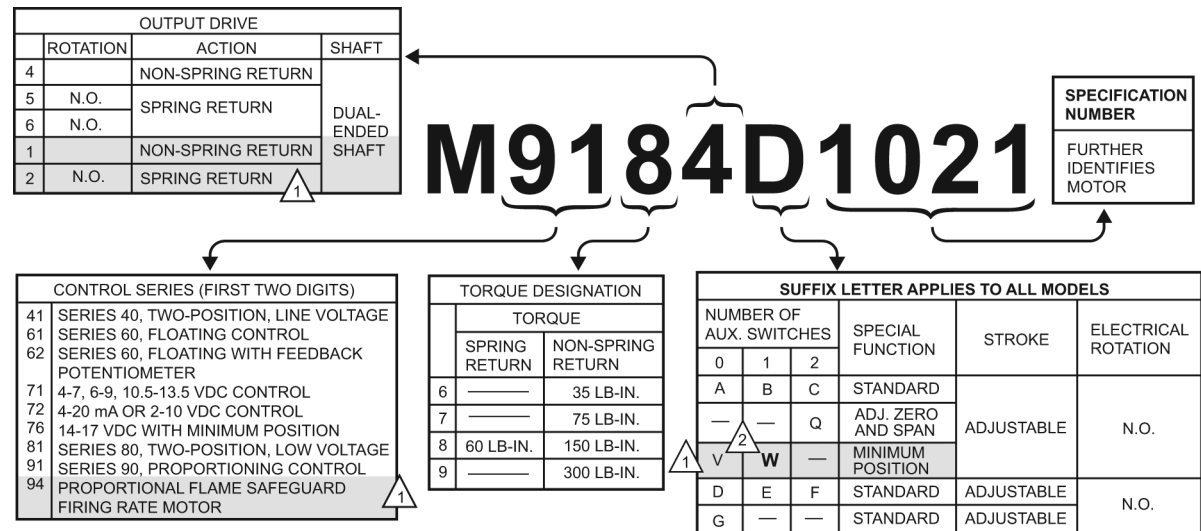
### HOW TO USE THIS MANUAL

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.

M13696A

### 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		
<b>BARBER COLMAN - TAC</b>													
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	M8185D1006	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	50017460-001			160°	208	60	180°	20		spst	M4185B1058	160° stroke, 60 sec M8185D: 60 sec
MA-416-500	M8185D1006	50017460-001	220736A		160°	208	60	180°	20	1	spst	M4185B1058	
MA-418	M8185D1006	50017460-003			160°	120	60	180°	20		spst	M4185A1001	
MA-418-500	M8185D1006	50017460-003	220736A		160°	120	60	180°	20	1	spst	M4185B1009	
MA-419	M8185D1006	50017460-001			160°	240	60	180°	20		spst	M4185B1058	160° stroke, 60 sec TRADELINE is 60 sec
MA-419-500	M8185D1006	50017460-001	220736A		160°	240	60	180°	20	1	spst	M4185B1058	
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	50017460-001			160°	240	60	170°	20		spst	M4185B1058	MA5 includes special
MA5-419-500	M8185D1006	50017460-001	220736A		160°	240	60	170°	20	1	spst	M4185B1058	
MC-351	M6194D1017		220736A		160°	24	220	180°	70	1	spdt	None	Original: unidirectional operation TRADELINE is 240 sec
MC-421	M6184D1035	50017460-003	220736A		160°	120	175	180°	20	1	spdt	None	Original: unidirectional operation TRADELINE is 60 sec
MC-431	M6194D1017	50017460-001	220736A		160°	120	220	180°	30	1	spdt	None	Original: unidirectional operation TRADELINE is 240 sec



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		
MC-4311	M6194D1017	50017460-001	220736A		160°	240	220	180°	30	1	spdt	None	
MC5-4311	M6194D1017	50017460-001	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	Original: economizer
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	50017460-003	220736A		90°	120	50	90°	13	1	spdt	M6184D1001 + Q607A	
MP-2150-500	M6184D1035	50017460-003	220736A		160°	120	50	180°	25	1	spdt	M6184A1023 + Q607A	
MP-2151-500	M6184D1035	50017460-001	220736A		160°	240	50	180°	30	1	spdt	None	TRADELINE is 60 sec, 150 lb-in
MP-371	M6294D1008-S		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	50017460-003	220736A	Q7230A	160°	120	220	180°	130	1	2-15 Vdc	None	Set signal range
MP-483-600	M6294D1008-S	50017460-003	220736A		90°	120	220	90°	65	1	spdt	M6294D1008-S	Check timing and stroke
MP-485	M6194D1017	50017460-003	220736A		160°	120	220	180°	130	1	spdt	None	
MP-4851	M6294D1008-S	50017460-001	220736A		160°	240	220	180°	130	1	CP-8000	None	
MP-486	M6294D1008-S	50017460-003	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	
<b>PENN JOHNSON</b>													
M110AAB-1	M8185D1006	50017460-003	220736A		ADJ	120	25	45-270°	60	1		None	
M110AGA-1	M8185D1006				ADJ	24	25	45-270°	60			None	
M110AGB-1	M8185D1006		220736A		ADJ	24	25	45-270°	60	1		None	

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		
M110GGA-1	M9185D1004		220738A	Q7230A								None	
M110JGA-1	M9185D1004				ADJ	24	25	65-270°	60			M9184D1004 + 220738A	Replacement is 90°-160° stroke
M110JGB-1	M9185D1004		220736A		ADJ	24	25	65-270°	60			M9184D1004 + 220738A	
M110QGA-1	None											None	
M120AAA-1	M6184D1035	50017460-003			ADJ							None	
M120AAB-1	M8185D1006	50017460-003	220736A		ADJ							None	
M120AAC-1	M6184D1035	50017460-003	220736B		ADJ							None	
M120AGA-1	M6184D1035				ADJ							None	
M120GGA-1	M9164D1009			Q7230A	ADJ							None	Select signal range
M120JAA-1	M9164D1009	50017460-003			ADJ	120	35	65-270°	60			M9164D1009	Replacement is 90°-160° stroke
M120JAC-1	M9164D1009		220736B		ADJ	24	35	65-270°	60	2		M9164C1068	
M120JGA-1	M9164D1009				ADJ	24	35	65-270°	60			M9164A1005	M9164A1005: 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			M7285Q1008	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	50017460-003			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		None	
M150GGA-1	M9184D1021		220738A	Q7230A	ADJ							None	Select signal range
M150JGA-1	M9184D1021				ADJ	24	150	65-270°	60			M9184A1019	
M150JGB-1	M9184D1021		220736A		ADJ	24	150	65-270°	60	1		M9184F1034	Replacement is 90°-160° stroke
M150JGC-1	M9184D1021		220736B		ADJ	24	150	65-270°	60	2		M9184F1034	

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		
M150QGA-1	None					24	150	65-270°	60			M7284Q1009	
M40AAA-1	M9164D1009	50017460-003			90°	120	35	90°	34			M9164A1005	
M40AAC-1	M9164D1009	50017460-003	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-S											M6284F1013-S	Check voltage & stroke of motor
M80AAB-1	M6284D1000-S		220736B									M6284F1013-S	
M80ACA-1	M6285A1005-S											M6285A1005-S	Check voltage & stroke of motor
M80ADA-1	M6285A1005-S											M6285A1005-S	
M80BAA-1	M9184D1021											M9184A1019	
M80BAA-4	None											M9184D1005	
M80BCA-1	M9185D1004											M9185D1004	
M80BDA-1	M9185D1004											M9185D1004	
M80BEA-1	M9185D1004											M9185A1018	replacement is Normally Closed
M80FAA-2	M9184D1021											M9184A1019	Check voltage & stroke of motor
M80FCA-2	M9185D1004											M9185D1004	
M80FDA-1	M9185D1004											M9185D1004	
M80FEA-1	M9185D1004											M9185A1018	Replacement is Normally Closed
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	
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	

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		
M81AAB-5	M6184D1035		220736A		ADJ	24	150	65-270°	60	1		M6184F1014	
M81AAC-1	M6184D1035											M6184F1014	
M81ACA-3	M8185D1006				160°	24	50	160°	60			M8185D1006	
M81ACB-1	M8185D1006		220736A		160°	24	50	160°	60	1		None	
M81ADA-2	M8185D1006	50017460-001			160°	MULTI	75	160°	60			M4185B1058	
M81AEA-2	M8185D1006	50017460-001			160°	MULTI	75	160°	60			M4185B1009	
M81AFA-2	M8185D1006				160°	24	50	160°	60			None	Use aux shaft
M81AFB-1	M8185D1006	50017460-001										M4185B1058	Check stroke and aux switch
<b>WHITE RODGERS</b>													
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	M9185D1004		220738A			24	25	90°				M9185D1004 W/220738A	30 sec
3420A-4	M9185D1004	50017460-003	220738A			120	25	90°				M9185D1004 W/220738A	
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	M9184D1021					24	100	160°	30			M9184A1019	150 lb-in, 60 sec
<b>SIEMENS</b>													
SQM50.261R1G3						110	90		8		4-20mA	M7284C1000	Q607 to add more switches
SQM50.261R1Z3						110	90		8		all	M9184C1031+ Q7230A1005+50017460-003	Q607 to add more switches
SQM50.264R1G						110	90		8		4-20mA	M7284C1000	Q607 to add more switches
SQM50.264R1G4						110	90		8		4-20mA	M7284C1000	Q607 to add more switches

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		
SQM50.264R1Z3						110	90		8		all	M9184C1031+ Q7230A1005+50017460-003	Q607 to add more switches
SQM50.361R1G						110	140		12		4-20mA	M7284C1000	Q607 to add more switches
SQM60.361r1z3						110	140		12		all	M9184C1031+ Q7230A1005+50017460-003	Q607 to add more switches
SQM50.364R1G						110	140		12		4-20mA	M7284C1000	Q607 to add more switches
SQM50.364R1Z3						110	140		12		all	M9184C1031+ Q7230A1005+50017460-003	Q607 to add more switches
SQM50.461R1G3						110	140		25		4-20mA	M7284C1000	Q607 to add more switches
SQM50.461R1H3						110	140		25		135 ohm	M9184C1031+50017460-003	Q607 to add more switches
SQM50.461R1Z						110	140		25		all	M9184C1031+ Q7230A1005+50017460-003	Q607 to add more switches
SQM50.464R8G						24	140		25		4-20mA	M7284C1000+50017460-001	Q607 to add more switches
SQM50.464R1G						110	140		25		4-20mA	M7284C1000	Q607 to add more switches
SQM50.464R1H3						110	140		25		135 ohm	M9184C1031+50017460-003	Q607 to add more switches
SQM50.464R8H3						24	140		25		135 ohm	M9184C1031	Q607 to add more switches
SQM50.464R1Z3						110	140		25		all	M9184C1031+ Q7230A1005+50017460-003	Q607 to add more switches
SQM50.464R2Z3						220	140		25		all	M9184C1031+ Q7230A1005+50017460-001	Q607 to add more switches
SQM50.464R8Z3						24	140		25		all	M9184C1031+ Q7230A1005	Q607 to add more switches
SQM53.461R1Z3						110	200		25		all	M9194D1003+220736+ Q7230A1005+50017460-003	Q607 to add more switches
SQM53.464R1G						110	200		25		4-20mA	M7294A1010+220736B	Q607 to add more switches

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		
SQM53.464R1Z3						110	200		25		all	M9194D1003+220736B+Q7230A1005+50017460-003	Q607 to add more switches
SQM53.464R2Z3						220	200		25		all	M9194D1003+220736B+Q7230A1005+50017460-001	Q607 to add more switches
SQM56.564R1G						110	310		37		4-20mA	M7294A1010+220736B	Q607 to add more switches
SQM56.564R1H4						110	310		37		135 ohm	M9194D1003+220736B+50017460-003	Q607 to add more switches
SQM56.564R1Z3						110	310		37		all	M9194D1003+220736B+Q7230A1005+50017460-003	Q607 to add more switches
SQM56.664R1G3						110	400		50		4-20mA	M7294A1010+220736B	Q607 to add more switches
SQM56.664R2G3R						220	400		50		4-20mA	M7294A1010+220736B+50017460-001	Q607 to add more switches
SQM56.664R1H3						110	400		50		135 ohm	M9194D1003+220736B+50017460-003	Q607 to add more switches
SQM56.664R1Z3						110	400		50		all	M9194D1003+220736B+Q7230A1005+50017460-001	Q607 to add more switches
SQM56.667R1G						110	400		50		4-20mA	M7294A1010+220736B	Q607 to add more switches
SQM56.667R1Z3						110	400		50		all	M9194D1003+220736B+Q7230A1005+50017460-001	Q607 to add more switches

## 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	Original Motor Specifications						Functional Replacement	Comments
	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (seconds)	Aux. Sw	Control Signal		
M436A1009	120	20	75°	30	1	Series 40	M436A1116	
M436A1017	120	20	75°	30	1	Series 40	M436A1116	
M436A1025	240	20	75°	30	1	Series 40	M436A1124	
M436A1033	240	20	75°	30	1	Series 40	M436A1124	
M436A1041	120	20	75°	30	1	Series 40	M436A1116	
M436A1058	240	20	75°	30	1	Series 40	M436A1124	
M436A1066	240	20	75°	50	1	Series 40	M436A1124	M436A1124 has 30 sec timing
M436A1074	220	20	75°	50	1	Series 40	M436A1140	M436A1140 has 50 sec timing
M436A1082	120	20	75°	30	1	Series 40	M436A1116	
M436A1090	120	20	75°	30	1	Series 40	N/A	
M436A1108	240	20	75°	30	1	Series 40	M436A1124	
M436A1116	120	20	75°	30	1	Series 40	N/A	
M436A1124	240	20	75°	30	1	Series 40	N/A	
M436A1132	240	20	75°	50	1	Series 40	M436A1140	M436A1124 has 30 sec timing
M436A1140	220	20	75°	50	1	Series 40	N/A	
M436A1157	120	20	75°	30	1	Series 40	M436A1116	
M436A1165	120	20	75°	30	1	Series 40	M436A1090	Ray Special
M436A1173	240	20	75°	40	1	Series 40	M436A1124	M436A1124 has 30 sec timing
M6414A1009	24	25	90°	90	1	spdt floating	None	
M6415A1008	24	25	90°	90	1	spdt floating	None	Trane Special, CCW Open
M6415A1016	24	25	90°	90	1	spdt floating	N/A	CCW to Open
M6415B1006	24	25	90°	90		spdt floating	None	Trane Special, CCW Open
M6415B1014	24	25	90°	90		spdt floating	N/A	CW to Open
M7405A1008	24	25	90°	90		Digital	None	
M7405A1016	24	25	90°	90		Digital	none	
M7415A1006	24	25	90°	90		Thermistor	M7415A1006	
M7415A1014	24	25	90°	90		Thermistor	M7415A1006	York Special
M7415A1022	24	25	90°	90		Thermistor	M7415A1006	
M7415A1048	24	25	90°	90		Thermistor	M7415A1006	
M7415B1004	24	25	90°	90		Thermistor	N/A	Opens CW, spring return CCW



Table 2. Other Honeywell Motors to Modutrol IV Motors.

OS # to be Replaced	Original Motor Specifications						Functional Replacement	Comments
	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (seconds)	Aux. Sw	Control Signal		
M828A ALL	120/240	25	None	None		Series 80	M836A1042	
M828B ALL	120/240	25	None	None		Series 80	M836A1042	
M828C ALL	24	40	None	None		Series 80	M836A1042	
M828D ALL	24	40	None	None		Series 80	M836A1042	
M828X ALL	120/208	25	None	None		Series 80	M836A1042	
M829A ALL	24	3	75°	None	1	Series 80	None	Rewire & replace control system with M835
M833A1007	24	6	90°	15M		Series 80	None	
M833A1015	24	6	90°	15M		Series 80	none	
M833A1023	24	6	90°	15M		Series 80	None	G.E. Special, special rotation, Lennox
M833A1031	24	6	90°	15M		Series 80	None	Trane Special, special rotation
M835A1002	24	4	80°	80		Series 80	M835A1051	
M835A1010	24	4	80°	80	1	Series 80	M835A1051	Reset heat anticipator setting
M835A1028	24	4	80°	80	1	Series 80	M835A1051	
M835A1036	24	4	80°	80	1	Series 80	M835A1051	
M835A1044	24	4	80°	80	1	Series 80	M835A1051	Reset heat anticipator setting
M835A1051	24	4	80°	80	1	Series 80	N/A	Tradeline
M835A1069	24	4	80°	80	1	Series 80	M835A1051	
M836A1000	24	20	80°	30	1	Series 80	M836A1042	
M836A1018	24	20	75°	30	1	Series 80	M836A1042	
M836A1026	24	20	75°	50	1	Series 80	M836A1042	International
M836A1034	24	20	75°	30	1	Series 80	M836A1042	
M836A1042	24	20	75°	30	1	Series 80	N/A	Tradeline
M836A1059	24	20	75°	50	1	Series 80	M836A1042	International
M836A1067	24	20	75°	30	1	Series 80	M836A1042	
M836A1075	24	20	75°	30	1	Series 80	M836A1042	Coleman Special
M836B1009	24	15	75°	25	1	Series 80	M836B1033	
M836B1017	24	15	75°	25	1	Series 80	M836B1033	
M836B1025	24	15	75°	25	1	Series 80	M836B1033	
M836B1033	24	15	75°	25	1	Series 80	N/A	Tradeline
M836B1041	24	15	75°	25	1	Series 80	M836B1033	Carrier Special

Table 2. Other Honeywell Motors to Modutrol IV Motors.

OS # to be Replaced	Original Motor Specifications						Functional Replacement	Comments
	Voltage (Vac)	Torque (lb-in.)	Stroke (degrees)	Timing (seconds)	Aux. Sw	Control Signal		
M8405A1006	24	25	90°	90		spst	N/A	
M8405A1014	24	25	90°	90		spst	M8405A1006	York Special
M8405B1004	24	25	90°	90		spst	None	Carrier Special
M8414A1005	24	25	90°	90	1	spst	None	Non spring return
M8415A1004	24	25	90°	90	1	spst	N/A	
M842A1008	24	6	90°	18M		Series 80	N/A	
M847A1008	24	2	45°	20		Series 80	M847A1080	
M847A1023	24	2	45°	20		Series 80	M847A1072	
M847A1031	24	2	45°	20		Series 80	M847A1080	Canada only, with 38 in. chain linkage & extended mount bracket
M847A1049	24	2	45°	20		Series 80	M847A1072	Canada Special with disengaging actuator arm
M847A1056	24	2	45°	20		Series 80	M847A1072	Arm not mounted
M847A1064	24	2	45°	20		Series 80	M847A1072	
M847A1072	24	2	45°	20		Series 80	N/A	With disengaging actuator arm
M847A1080	24	2	45°	20		Series 80	N/A	With 38 in. chain linkage, with extended mount bracket
M847A1098	24	2	45°	20		Series 80	M847A1098	Canada Special, with disengaging actuator arm, extended mounting bracket included
M984B1015	24	45	90°	18	1	135 ohm	None	Canada Versa Drive
M986A1011	24	45	90°	18		135 ohm	None	
M986B1002	24	45	90°	18	1	135 ohm	None	
ML984A1030	24	160 lb	0.75 in.	60		135 ohm	None	Canada Special
ML984B1004	24	80 lb	0.75 in.	75		135 ohm	None	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	50017460-003			160°	120	50	160	60		Series 40	M4185B1009	
M405B1011	M8185D1006	50017460-001			160°	208	50	160	60		Series 40	M4185B1058	
M405B1029	M8185D1006	50017460-001			160°	240	50	160	60		Series 40	M4185B1058	
M405B1037	M8185D1006	50017460-003			160°	120	50	160	60		Series 40	M4185A1001	
M405B1045	M8185D1006	50017460-001			160°	220	50	160	60		Series 40	None	
M405B1052	M8185D1006	50017460-003			90°	120	50	60	60		Series 40	M4185B1058	Replaced Motor is 60° Replacement is 160°, 60 sec timing
M405B1086	M8185D1006	50017460-001			90°	220	50	60	60		Series 40	None	
M405B1094	M8185D1006	50017460-003			160°	120	50	160	60		Series 40	M4185A1001	
M405B1102	M8185D1006	50017460-003			160°	120	50	160	60		Series 40	M4185A1001	
M405C1002	M8185D1006	50017460-003			160°	120	50	160	60		Series 40	M4185A1001	

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		
M405C1010	M8185D1006	50017460-001			160°	208	50	160	60		Series 40	M4185B1058	
M405C1028	M8185D1006	50017460-001			160°	220	50	160	60		Series 40	None	
M405C1036	M8185D1006	50017460-003			90°	120	50	90	30		Series 40	M4185B1058	
M405C1044	M8185D1006	50017460-001			90°	208	50	90	30		Series 40	M4185B1058	
M405C1051	M8185D1006	50017460-001			90°	240	50	90	30		Series 40	M4185B1058	
M405C1069	M8185D1006	50017460-001			160°	240	50	160	60		Series 40	M4185B1058	
M405D1001	M8185D1006	50017460-003			160°	120	50	160	60		Series 40	M4185B1009	Use aux. end; N.O.
M405D1019	M8185D1006	50017460-001			160°	208	50	160	60		Series 40	None	Use aux. end; N.O.
M405D1027	M8185D1006	50017460-001			160°	240	50	160	60		Series 40	None	
M405D1035	M8185D1006	50017460-001			160°	220	27	160	60		Series 40	None	
M445A1000	M8185D1006	50017460-003	220736A		160°	120	50	160	60	1	Series 40	M4185B1009	
M445A1018	M8185D1006	50017460-003	220736A		160°	120	50	160	60	1	Series 40	M4185B1009	
M445A1026	M8185D1006	50017460-001	220736A		160°	208	50	160	60	1	Series 40	M4185B1058	
M445A1034	M8185D1006	50017460-001	220736A		160°	208	50	160	60	1	Series 40	M4185B1058	
M445A1042	M8185D1006	50017460-001	220736A		160°	208/240	50	160	60	1	Series 40	M4185B1058	
M445A1059	M8185D1006	50017460-001	220736A		160°	240	50	160	60	1	Series 40	M4185B1058	
M445A1067	M8185D1006	50017460-001	220736A		160°	220	50	160	60	1	Series 40	None	

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		
M445A1075	M8185D1006	50017460-003	220736A		90°	120	50	60	25	1	Series 40	M4185B1058	30 sec timing & 90° stroke
M445A1091	M8185D1006	50017460-003	220736A		160°	120	50	160	60	1	Series 40	M4185B1009	
M445A1109	M8185D1006	50017460-003	220736A		160°	120	50	160	60	1	Series 40	M4185B1009	
M445A1117	M8185D1006	50017460-003	220736A		90°	120	50	90	30	1	Series 40	M4185B1058	
M445A1125	M8185D1006	50017460-003	220736A		90°	120	50	90	15	1	Series 40	M4185B1058	
M445A4004	M8185D1006	50017460-003	220736A		ADJ	120	50	90/160	30/60	1	Series 40	None	Canada Special, aux. switch set at 120°
M445C1008	M8185D1006	50017460-003	220736A		160°	120	50	160	60	1	Series 40	M4185B1009	
M445C1016	M8185D1006	50017460-003	220736A		160°	120	50	160	60	1	Series 40	M4185B1009	Aux. switch set at 155°
M445C1024	M8185D1006	50017460-003	220736A		160°	120	50	160	60	1	Series 40	M4185B1009	
M445D1007	M8185D1006	50017460-003			160°	120	50	160	60		Series 40	M4185A1001	
M445D1015	M8185D1006	50017460-003			90°	120	50	90	30		Series 40	M4185B1058	
M445D1023	M8185D1006	50017460-001			160°	220	50	160	60		Series 40	None	
M445D1031	M8185D1006	50017460-001			160°	240	50	160	60		Series 40	M4185B1058	
M445D1049	M8185D1006	50017460-003			160°	120	50	180	67		Series 40	M4185A1001	60 sec timing & 160° stroke
M445D1056	M8185D1006	50017460-003			160°	120	50	160	60		Series 40	M4185A1001	M445D was moisture fungus treated
M465A1008	M8185D1006	50017460-003			160°	120	25	160	40		Series 40	M4185B1009	60 sec timing
M465B1007	M8185D1006	50017460-003	220736B		160°	120	50	160	60	2	Series 40	M4185A1001	

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		
M604A1002	M6184D1035	50017460-003				120	75	360	30		Series 61	M6184A1023	TRADELINE is 90°/160°
M604A1028	M6184D1035	50017460-001				240	40	360	60		Series 61	None	TRADELINE is 90°/160°
M604A1036	M6184D1035	50017460-001				208	54	360	30		Series 61	None	
M604A1051	None					240	40	180	15		Series 61	None	Special shaft length
M604A1069	M6184D1035	50017460-003				120	40	360	60		Series 61	None	Bahnsen Special; TRADELINE is 90°/160°
M604A1077	M6184D1035	50017460-003				120	75	360	15		Series 61	None	TRADELINE is 90°/160°
M604B1001	M6184D1035	50017460-003			160°	120	37	180	15		Series 61	M6184A1023	Change control circuit to 24 Vac
M604B1019	M6184D1035	50017460-001			160°	240	37	180	30		Series 61	None	
M604B1027	M6184D1035	50017460-003			160°	120	75	180	30		Series 61	M6184A1023	
M604B1035	M6184D1035	50017460-001			160°	208	54	180	30		Series 61	None	
M604B1043	M6184D1035	50017460-001			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	50017460-003			160°	120	54	180	30		Series 61	M6184A1023	Change control circuit to 24 Vac
M604B1076	M6184D1035	50017460-001			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	50017460-001			160°	220	85	180	60		Series 61	None	
M604D1017	M6184D1035	50017460-001			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	

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		
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	50017460-003			160°	120	35	160	60		Series 61	None	Change control circuit to 24 Vac
M634B1016	M6184D1035	50017460-001			160°	240	35	160	60		Series 61	None	
M634C1007	M6184D1035		220736B		160°	24	35	160	60	2	Series 61	M6184F1014	Check torque
M634C1015	M6184D1035	50017460-003	220736B		160°	120	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 50017460-001
M634C1023	M6184D1035	50017460-001	220736B		160°	240	35	160	60	2	Series 61	M6184F1014	
M634C1031	M6184D1035	50017460-001	220736B		160°	220	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 50017460-001
M634C1049	M6184D1035	50017460-003	220736B		160°	120	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 50017460-003
M634C1056	M6184D1035		220736B		160°	24	35	160	60	2	Series 61	M6184F1014	Check torque
M634C1064	M6184D1035	50017460-001	220736B		160°	220	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 50017460-001
M634C1072	M6184D1035	50017460-003	220736B		160°	120	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 50017460-003
M634C1080	M6184D1035	50017460-001	220736B		160°	220	35	160	60	2	Series 61	M6184F1014	150 lb-in. torque; Replacement: requires 50017460-001
M634C1098	M6184D1035	50017460-001	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	50017460-001			160°	220	150	160	60		Series 61	None	
M644A1180	M6184D1035				160°	24	150	160	60		Series 61	M6184D1035	Carrier Special



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		
M644B1007	M6184D1035	50017460-003			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	50017460-003			90°	120	150	90	120		Series 61	None	Change control circuit to 24 Vac
M644B1049	M6184D1035	50017460-003			160°	120	75	160	30		Series 61	M6184A1023	TRADELINE is 30/60 sec timing; Replacement is 150 lb-in.
M644B1056	M6194D1017	50017460-003			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	50017460-003			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	50017460-003			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	
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	TRADELINE: 30/60 sec timing
M644E1020	M6184D1035	50017460-003	220736A		ADJ	120	75	90/160	15/30	1	Series 61	None	Aux. switch set at 4°

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		
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	50017460-003			160°	120	75	180	30		Series 61	M6184D1001	Trane Special; Requires 50017460-001 & 24 Vac control circuit
M644L1006	M6194D1017	50017460-003	220736A		90°	120	150	90	120	1	Series 61	None	
M644L1014	M6184D1035	50017460-003	220736A		90°	120	150	90	30	1	Series 61	M6184F1014	Requires 50017460-001
M644L1022	M6194D1017	50017460-003	220736A		90°	120	150	90	120	1	Series 61	None	
M644L1030	M6194D1017	50017460-003	220736A		90°	120	150	90	120	1	Series 61	None	Trane Special, aux. switch set at 7°
M734A1007	None					120	35	90	30		W936	None	Special circuit
M734A1015	None					120	35	90	30		W936	None	
M734A1023	None					120	35	90	30		W936	None	Nesbitt Special; Special circuit
M734B1006	None					120	35	90	28		W936	None	Special circuit; Check transformer
M734B1014	None					240	35	90	28		W936	None	
M734B1022	None					24	35	90	28		W936	None	Nesbitt Special; Special circuit
M734B1030	None					240	35	160	50		W936	None	Special circuit Check transformer
M734B1048	None					120	35	160	50		W936	None	
M734C1005	None					120	35	90	28		W936	None	Special circuit
M734C1013	None					120	35	90	28		W936	None	Nesbitt Special; Special circuit
M734C1021	None					120	35	90	28		W936	None	
M734D1004	M9164D1009	50017460-003		Q7330A1004	160°	120	35	160	50		W936	None	
M734D1012	M9164D1009	50017460-003		Q7330A1004	90°	120	35	90	28		W936	None	
M734D1020	M9164D1009	50017460-001		Q7330A1004	160°	240	35	160	50		W936	None	

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		
M734D1038	M9164D1009			Q7330A1004	160°	24	35	160	50		W936	None	
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	Use aux end of N.C. motor; N.O.
M734F ALL	M9164D1009			Q7330A1004			75				W936	None	
M734G ALL	M9164D1009			Q7330A1004			75				W936	None	
M734H1000	M9164D1009	50017460-003		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	50017460-003		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	50017460-003		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	50017460-003		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	50017460-003		Q7130A1006	90°	120	35	90	30		6 - 9 Vdc	None	Adjust for 6-9 Vdc
M734J1072	M9164D1009	50017460-003	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

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		
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	M9184D1021	50017460-003		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 For use with W7080 systems
M744D1011	M9184D1021			Q7130A1006	160°	24	150	160	60		4 - 7 Vdc	None	
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	M9184D1021			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
M744J1006	None					24	150	90	30		0 - 2.5 Vdc	None	With zero adjustment
M744S1005	M9184D1021	50017460-003		Q7230A1005	90°	120	150	90	30		4 - 20 mA	M7284A1004	Adjust for 4-20 mA Micronik system
M744S1013	M9184D1021	50017460-003		Q7230A1005	160°	120	150	160	60		4 - 20 mA	M7284A1012	
M744T1004	M9184D1021	50017460-003	220736B	Q7230A1005	90°	120	150	90	30	2	4 - 20 mA	M7284C1000	
M744T1012	M9184D1021	50017460-003	220736B	Q7230A1005	160°	120	150	160	60	2	4 - 20 mA	M7284C1000	
M744Y1009	M9184D1021	50017460-003	220736B	Q7230A1005	90°	120	150	90	30	2	4 - 20 mA	M7284Q1009	Adjust for desired range Adjustable zero span
M744Y1017	M9184D1021	50017460-003	220736B	Q7230A1005	160°	120	150	160	60	2	4 - 20 mA	M7284Q1009	
M745A1003	M9185D1004			Q7330A1004	90°	24	50	90	30		W936	None	
M745A1011	M9185D1004			Q7330A1004	160°	24	50	160	60		W936	None	

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		
M745A1029	M9185D1004	50017460-003		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	M9185D1004 + 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	M9185D1004 + Q7130A1006	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.
M745L1001	M9185D1004			Q7630A1001	90°	24	50	90	35		14 - 17 Vdc	None	Lennox Special
M745L1019	M9185D1004	50017460-003		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.

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		
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	M9185D1004 + Q7130A1006	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	50017460-003		Q7230A1005	90°	120	50	90	30		4 - 20 mA	M7285A1003	Adjust for 4-20 mA
M745S1010	M9185D1004	50017460-003		Q7230A1005	160°	120	50	160	60		4 - 20 mA	M7285A1003	
M745T1001	M9185D1004	50017460-003	220736B	Q7230A1005	90°	120	50	90	30	2	4 - 20 mA	M7285C1009	
M745T1019	M9185D1004	50017460-003	220736B	Q7230A1005	160°	120	50	160	60	2	4 - 20 mA	M7285C1009	
M745Y1006	M9185D1004	50017460-003	220736B	Q7230A1005	90°	120	50	90	30	2	4 - 20 mA	M7285Q1008	Adjustable zero span, Adjust for desired range
M745Y1014	M9185D1004	50017460-003	220736B	Q7230A1005	160°	120	50	160	60	2	4 - 20 mA	M7285Q1008	
M765A1001	M9185D1004			Q7330A1004	160°	24	25	160	40		W936	None	
M765A1019	M9185D1004			Q7330A1004	90°	24	25	90	25		W936	None	
M765K1000	M9185D1004			Q7630A1001	90°	24	25	90	25		14 - 17 Vdc	None	Select CCW rotation; Use with W7080 system, elec. N.O.
M765L1009	M9185D1004			Q7630A1001	160°	24	25	160	40		14 - 17 Vdc	None	For use with W7080 system
M765L1017	M9185D1004			Q7630A1001	90°	24	25	90	25		14 - 17 Vdc	None	
M765L1025	M9185D1004	50017460-003		Q7630A1001	90°	120	25	90	25		14 - 17 Vdc	None	Trane Special; use with W7080 system
M765N1007	M9185D1004			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.

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		
M765N1015	M9185D1004			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	M8185D1006	
M805B1012	None					24	27	160	120		Series 80	None	Designed for use with 25 hz
M805B1020	M8185D1006				160°	24	50	160	60		Series 80	M8185D1006	
M805B1038	M8185D1006		220736A		160°	24	50	160	60	1	Series 80	None	
M805C1003	M8185D1006				160°	24	50	160	60		Series 80	M8185D1006	
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	50017460-001	220736A		160°	MULTI	50	160	60	1	Series 80	M4185B1058	
M845A1035	M8185D1006	50017460-001	220736A		90°	MULTI	50	90	30	1	Series 80	M4185B1058	Requires 50017460-001
M845A1050	None					24	50	160	60	1	Series 80	None	
M845A1068	None					24	50	160	60	1	Series 80	None	
M845A4005	M8185D1006	50017460-001	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	50017460-003	220736A		160°	120	50	160	60	1	Series 80	M4185B1058	
M845B1026	M8185D1006	50017460-001	220736A		160°	220	50	160	60	1	Series 80	None	
M845C1009	M8185D1006				160°	24	50	160	60		Series 80	M8185D1006	
M845D1008	M8185D1006				160°	24	50	160	60		Series 80	None	Univac Special
M845D1016	M8185D1006	50017460-003			160°	120	50	160	60		Series 80	M4185B1058	G.E. Special
M845D1024	M8185D1006				160°	24	50	160	60		Series 80	None	Braden Special
M845E1007	M8185D1006	50017460-003	220736A		160°	120	50	160	60	1	Series 80	M4185B1009	Use aux. motor end; N.O.

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		
M845E4001	M8185D1006	50017460-003	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	M9184D1021				160°	24	108	160	60		135 ohm	M9184A1019	
M904E1002	M9184D1021				160°	24	108	160	60		135 ohm	M9184A1019	
M904E1010	None					24	108	160	60		135 ohm	None	25 Hz
M904E1028	None					24	108	160	60		135 ohm	None	40 Hz
M904E1036	M9184D1021			Q181A1004	160°	24	108	180	60		135 ohm	M9184A1019	Add Q181 for slaved motor applications
M904E1051	M9184D1021				90	24	108	90	30		135 ohm	None	
M904E1085	M9184D1021				90	24	108	90	30		135 ohm	None	Special cam for few positions
M904E1119	M9194D1003				160	24	108	240	90		135 ohm	None	TRADELINE is 90/160 degrees
M904E1150	M9184D1021			Q181A1004	160°	24	108	160	240		135 ohm	M9194D1003	Add Q181 for slaved motor applications
M904E1176	M9184D1021			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 M9184D1021
M904E1242	None					24	38	180	15		135 ohm	None	
M904E1267	M9184D1021			Q181A1004	160°	24	54	160	30		135 ohm	M9184D1005	Add Q181 for slaved motor applications
M904E1358	M9184D1021			Q181A1004	160°	24	150	180	60		135 ohm	M9184A1019	
M904E1366	M9184D1021				90	24	150	90	30		135 ohm	M9184D1021	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-S				160°	24	150	160	60		Series 62	M6284D1000-S	No internal balance circuit, requires Q181 when using R927
M904F1035	M6284D1000-S				160°	24	150	160	60		Series 62	M6284D1000-S	
M904F1043	M6284D1000-S				90°	24	150	90	30		Series 62	M6284F1013-S	
M904F1050	M6284D1000-S				160°	24	150	160	240		Series 62	None	
M904G1000	M6284D1000-S				160°	24	150	160	60		Series 62	M6284D1000-S	



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		
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	M9185A1018	
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	M9185A1018	Use aux. motor end N.O. - replacement is normally closed
M905G1015	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	
M905G1023	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	Use aux. end; Add Q181 for slaved motor applications
M905H1006	M6285A1005-S				160°	24	27	160	60		Series 62	M6285A1005-S + Q209/S963	No internal balance circuit, requires Q181 when using R927
M905H1014	M6285A1005-S				160°	24	50	160	60		Series 62		
M905J1003	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	
M905K1002	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	
M905K1010	None					24	27	160	120		Series 62	None	M905K1010 designed for 25 Hz
M905L1001	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	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-S				160°	24	50	160	60		135 ohm	M9185C1006	For use with W841
M905N1025	M6285A1005-S				160°	24	50	160	60		135 ohm	M9185C1006	Replacement is less power supply cord, for use with W841, no internal balance circuit

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		
M905P1007	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	For use with W841 No internal balance circuit
M905P1015	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	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	M9484D1010	
M931A1058	None					24	75	160	30		135 ohm	M9484D1010	
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	M9484D1010	
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	M9484D1010	
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.

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-S	No internal balance circuit, requires Q181 when using R927
M931B1016	None					24	150	90/160	30/60		Series 62	M6284F1013-S	
M931B1024	None					24	150	160	60		Series 62	M6284D1000-S	
M931B1032	None					24	150	160	30		Series 62	None	
M931B1040	None					24	150	160	60		Series 62	M6284D1000-S	No internal balance circuit, requires Q181 when using R927
M931B1057	None					24	150	90	60		Series 62	None	
M931C1007	None					24	108	90/160	30/60	1	135 ohm	M9484E1017	
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	International special timing
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	International
M931C1072	None					24	150	90/160	30/60	1	135 ohm	M9484E1033	Switch set in 90° position
M931D1006	None					24	150	160	60	1	135 ohm	M6284F1013-S	No internal balance circuit
M931D1014	None					24	150	90	30	1	135 ohm	M6284F1013-S	
M934A1003	M9164D1009	50017460-001			160°	240	35	160	60		135 ohm	None	
M934A1011	M9164D1009	50017460-003			160°	120	35	160	60		135 ohm	None	

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		
M934A1029	M9164D1009				160°	24	35	160	60		135 ohm	M9164A1005	Wire M9164A1005 to 24 Vac
M934A1037	M9164D1009	50017460-001			160°	220	35	160	60		135 ohm	M9164A1088	
M934A1045	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1068	Wire M9164C1068 to 24 Vac
M934A1052	M9164D1009	50017460-003	220736B		160°	120	35	160	60	2	135 ohm	M9164C1068	
M934A1060	M9164D1009	50017460-001	220736B		160°	240	35	160	60	2	135 ohm	None	
M934A1078	M9164D1009	50017460-001	220736B		160°	220	35	160	60	2	135 ohm	None	
M934A1086	M9164D1009	50017460-003			160°	120	35	160	60		135 ohm	M9164A1005	
M934A1094	M9164D1009	50017460-003	220736B		160°	120	35	160	60	2	135 ohm	M9164C1068	
M934A1102	M9164D1009	50017460-001			90°	240	35	90	35		135 ohm	None	York Special
M934A1128	M9164D1009	50017460-003	220736B		90°	120	35	90	35	2	135 ohm	M9164C1068	
M934A1136	M9164D1009	50017460-003			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	M9164A1005	Wire M9164A1005 to 24 Vac
M934A1193	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1068	Wire M9164C1068 to 24 Vac
M934A1201	M9164D1009	50017460-001			160°	240	35	160	60		135 ohm	M9164A1013	
M934A1219	M9164D1009	50017460-003			160°	120	35	160	60		135 ohm	M9164A1005	
M934A1227	M9164D1009				160°	24	35	160	60		135 ohm	M9164D1009	
M934A1235	M9164D1009	50017460-001			160°	220	35	160	60		135 ohm	M9164A1088	
M934A1243	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1068	Wire M9164C1068 to 24 Vac
M934A1250	M9164D1009	50017460-003	220736B		160°	120	35	160	60	2	135 ohm	M9164C1068	

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		
M934A1268	M9164D1009	50017460-001	220736B		160°	240	35	160	60	2	135 ohm	None	
M934A1276	M9164D1009	50017460-001	220736B		160°	220	35	160	60	2	135 ohm	None	
M934A1284	M9164D1009	50017460-003			160°	120	35	160	60		135 ohm	M9164A1005	
M934A1292	M9164D1009	50017460-003	220736B		160°	120	35	160	60	2	135 ohm	M9164C1068	
M934A1300	M9164D1009	50017460-001			90°	240	35	90	30		135 ohm	None	York Special
M934A1318	M9164D1009	50017460-003	220736B		90°	120	35	90	30	2	135 ohm	M9164C1068	
M934A1326	M9164D1009	50017460-003			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	M9164A1005	Wire M9164A1005 to 24 Vac
M934A1359	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1068	Wire M9164C1068 to 24 Vac
M934A1367	M9164D1009	50017460-003		Q209E	160°	120	35	160	60		135 ohm	None	Carrier Special
M934A1375	M9164D1009	50017460-001			160°	240	35	160	60		135 ohm	None	
M934A1383	M9164D1009	50017460-001			160°	240	35	160	60		135 ohm	M9164A1013	For use with W899A systems
M934A1391	M9164D1009	50017460-003			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	M9164A1005	Use with W899A,E,F systems; Wire M9164A1005 to 24 Vac
M934A1433	M9164D1009	50017460-001	220736B		160°	240	35	160	60	2	135 ohm	None	For use with W899A systems
M934A1441	M9164D1009	50017460-003			160°	120	35	160	60		135 ohm	M9164A1005	
M934A1458	M9164D1009				90°	24	35	90	35		135 ohm	None	
M934A1466	M9164D1009				90°	24	35	90	35		135 ohm	None	

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		
M934A1474	M9164D1009		220736B		160°	24	35	160	60	2	135 ohm	M9164C1068	Wire M9164C1068 to 24 Vac
M934A1482	M9164D1009	50017460-003	220736B		160°	120	35	160	60	2	135 ohm	M9164C1068	
M934A1490	M9164D1009			Q209E	160°	24	35	160	60		135 ohm	None	Carrier Special
M934A1508	M9164D1009	50017460-001			160°	240	35	160	60		135 ohm	None	Use with W899A systems
M934A1516	M9164D1009	50017460-003	220736A		90°	120	35	90	35	1	135 ohm	M9164C1068	
M934A1524	M9164D1009				160°	24	35	160	60		135 ohm	M9164A1005	Wire M9164A1005 to 24 Vac
M934A1532	M9164D1009	50017460-001			90°	240	35	90	35		135 ohm	None	
M934A1540	M9164D1009	50017460-003			90°	120	35	90	35		135 ohm	M9164A1005	York Special
M934A1557	M9164D1009	50017460-001			160°	208/240	35	160	60		135 ohm	None	G.E. Special
M934A1565	M9164D1009	50017460-003	220736A		90°	120	35	90	35	1	135 ohm	M9164C1068	Reset aux. switch
M934A1573	M9164D1009	50017460-003			160°	120	35	160	60		135 ohm	M9164A1005	Carrier Special
M934A1599	M9164D1009			Q209E	160°	24	35	160	60		135 ohm	None	
M934B1036	M6284D1000-S				90°	24	35	90	35		Series 62	M6284F1013-S	No internal balance circuit, requires Q181 when using R927
M934C1001	M9164D1009	50017460-003		Q181A1004	90°	120	35	90	35		135 ohm	M9164A1005 +Q181A1004	Nesbitt Special; Q181 for Nesbitt Relay Driver
M934D1000	M9174D1007	50017460-003	220736A		160°	120	75	160	60	1	135 ohm	M9174B1043	
M934D1018	M9174D1007	50017460-003	220736B		160°	120	75	160	60	2	135 ohm	M9174C1033	
M934D1026	M9174D1007	50017460-003	220736A		90°	120	75	90	35	1	135 ohm	M9174B1027 + 220738A	
M934D1034	M9174D1007	50017460-003	220736B		90°	120	75	90	35	2	135 ohm	M9174C1025	
M934D1042	M9174D1007	50017460-003	220736B		90°	120	75	90	35	2	135 ohm	None	Cleaver Brooks Special

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		
M934D1059	M9174D1007	50017460-003	220736A		90°	120	75	90	35	1	135 ohm	None	
M934E1009	M9174D1007				160°	24	75	160	60		135 ohm	M9174B1043	Remove transformer
M934E1017	M9174D1007	50017460-003			160°	120	75	160	60		135 ohm	M9174B1043	
M934E1025	M9174D1007	50017460-003			90°	120	75	90	35		135 ohm	M9174B1043	
M941A1008	None					24	75	90/160	15/30		135 ohm	M9484D1010	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	M9484D1010	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	M9484D1010	Shipped in 90° position
M941A1065	None					24	75	90/160	15/30		135 ohm	M9484D1010	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-S	No internal balance circuit
M941B1015	M6284D1000-S					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.

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 cranked 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°; Tapped aux shaft, aux. shaft set to 5°/54°
M941D4017	None					24	75	90/160	15/30	2	135 ohm	M9484F4019	
M941E1012	None					24	75	160	30		135 ohm	M9484D1010	International
M941E1038	None					24	150	160	60		135 ohm	M9484D1010	
M941E1046	None					24	150	160	60		135 ohm	M9484D1010	



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		
M941E1053	None					24	150	90	60		135 ohm	None	
M941E1061	None					24	75	90	60		135 ohm	None	
M943A1004	None					24	40	240	90	2	135 ohm	None	Singer Special, 240° stroke
M944A1002	M9184D1021				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	M9184D1021	
M944A1036	None					24	37	160	15		135 ohm	None	
M944A1044	None					24	37	310	15		135 ohm	None	
M944A1051	M9184D1021				90°	24	75	90	30		135 ohm	m9184F1034	Univac Special
M944A1069	M9184D1021	50017460-003			90°	120	75	90	30		135 ohm	m9184F1034	Requires 50017460-001
M944A1119	None					24	37	335	15		135 ohm	None	No 335° stroke motors
M944A1127	None					24	75	335	30		135 ohm	None	
M944A1150	M9184D1021				160°	24	150	160	120		135 ohm	M9194D1003	Chrysler Special, check timing
M944A1168	M9184D1021				160°	24	150	160	60		135 ohm	M9184A1019	
M944A1176	M9184D1021				160°	24	150	160	60		135 ohm	M9184A1019	
M944A1192	M9184D1021				90°	24	75	90	30		135 ohm	m9184F1034	Nesbitt Special
M944B1001	M6284D1000-S				160°	24	150	160	60		Series 62	M6284D1000-S	No internal balance circuit, requires Q181 when using R927
M944B1019	M6284D1000-S				160°	24	150	160	60		Series 62	M6284D1000-S	
M944B1027	None					24	37	160	15		Series 62	None	
M944B1035	M6284D1000-S				160°	24	150	160	240		Series 62	None	
M944B1043	M6284D1000-S				90°	24	75	90	30		Series 62	M6284A1055-S	No internal balance circuit, check timing and stroke, requires Q181 when using R927
M944B1167	M6284D1000-S				160°	24	150	160	60		Series 62	M6284D1000-S	
M944B1175	M6284D1000-S				160°	24	150	160	60		Series 62	M6284D1000-S	
M944B1183	M6284D1000-S				160°	24	37	160	15		Series 62	M6284D1000-S	
M944B1191	M6294D1008-S				160°	24	300	160	240		Series 62	None	No internal balance circuit, requires Q181 when using R927
M944B1209	M6284D1000-S				160°	24	150	160	60		Series 62	M6284D1000-S	
M944B1241	M6294D1008-S		220736A		160°	24	150	160	240	1	Series 62	None	

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		
M944B4005	M6284D1000-S				ADJ	24	75	90/160	15/30		Series 62	M6284D1000-S	Canada Special, no internal balance circuit, requires Q181 when using R927
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	M9184D1021	
M944C1059	M9194D1003		220736A		ADJ	24	300	90/160	120/240	1	135 ohm	M9194E1000	
M944C4004	M9184D1021				ADJ	24	150	90/160	30/60		135 ohm	M9184D1021	Canada Special
M944C4012	M9184D1021				ADJ	24	150	90/160	120/240		135 ohm	M9194D1003	
M944D1009	M9184D1021		220736B		ADJ	24	150	90/160	30/60	2	135 ohm	m9184F1034	
M944D1017	M9184D1021		220736B		ADJ	24	150	90/160	30/60	2	135 ohm	m9184F1034	
M944E1008	M6284D1000-S		220736B		ADJ	24	75	90/160	15/30	2	Series 62	None	M6284 is 30/60 sec timing, No internal balance circuit
M944E1016	M6284D1000-S		220736B		ADJ	24	150	90/160	30/60	2	Series 62	M6284F1013-S	No internal balance circuit
M944E1024	M6284D1000-S		220736B		ADJ	24	150	90/160	30/60	2	Series 62	M6284F1013-S	Set aux switches at 4°/54°, no internal balance circuit
M944E1032	M6284D1000-S		220736B		ADJ	24	75	90/160	15/30	2	Series 62	None	Replaced motor is 2X faster, No internal balance circuit
M944E1040	M6284D1000-S		220736B		ADJ	24	150	90/160	30/60	2	Series 62	M6284F1013-S	No internal balance circuit
M944E1057	M6284D1000-S		220736B		ADJ	24	150	90/160	30/60	2	Series 62	M6284F1013-S	Set aux switches at 4°/54°, no internal balance circuit
M944E1081	M6284D1000-S		220736B		90°	24	75	90	30	2	Series 62	M6284F1013-S	Set aux switches at 42°/48°, no internal balance circuit
M944E1099	M6284D1000-S		220736B		90°	24	150	90	30	2	Series 62	M6284F1013-S	No internal balance circuit
M944F1007	M9184D1021				160°	24	150	160	60		135 ohm	M9184A1019	Use Q181 for slaved motor applications
M944G1006	M9184D1021		220736B		160°	24	150	160	60	2	Series 62	m9184F1034	
M944G1014	M9184D1021		220736B		160°	24	150	160	60	2	Series 62	m9184F1034	
M944G1022	M6284D1000-S	50017460-003			160°	120	150	160	60		Series 62	M6284A1055-S	No internal balance circuit, change control circuit to 24 Vac
M944G1030	M6284D1000-S	50017460-003			90°	120	150	90	30		Series 62	M6284A1055-S	

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		
M944G1048	M6284D1000-S	50017460-003			160°	120	150	160	60		Series 62	M6284A1055-S	
M944G1055	M6284D1000-S	50017460-003			160°	120	150	160	240		Series 62	None	No internal balance circuit
M944G1063	M6284D1000-S	50017460-003			160°	120	150	160	60		Series 62	M6284A1055-S	No internal balance circuit, change control circuit to 24 Vac
M944G1071	M6284D1000-S	50017460-003			90°	120	150	90	30		Series 62	M6284A1055-S	
M944G1089	M6284D1000-S	50017460-003			160°	120	150	160	60		Series 62	M6284A1055-S	
M944G1097	M6284D1000-S	50017460-003			90°	120	150	90	30		Series 62	M6284A1055-S	
M944G1105	M6294D1008-S	50017460-003			160°	120	300	160	240		Series 62	None	No internal balance circuit
M944G1121	M6294D1008-S	50017460-003	220736A		160°	120	300	160	240	1	Series 62	None	
M944H1013	M6284D1000-S	50017460-003	220736A		160°	120	150	160	60	1	Series 62	M6284F1013-S	No internal balance circuit, change control circuit to 24 Vac; Requires 50017460-003
M944H1021	M6284D1000-S	50017460-003	220736A		160°	120	150	160	60	1	Series 62	M6284F1013-S	
M944H1039	M6284D1000-S	50017460-003	220736A		160°	120	150	160	60	1	Series 62	M6284F1013-S + 50017460-003	York Special, no internal balance circuit, change control circuit to 24 V
M944H1047	M6284D1000-S	50017460-003	220736A		160°	120	150	160	60	1	Series 62	M6284F1013-S + 50017460-003	No internal balance circuit; Change control circuit to 24V
M944H1062	M6294D1008-S	50017460-003	220736A		160°	120	150	160	240	1	Series 62	None	Trane Special, no internal balance circuit
M944J1002	M6284D1000-S				160°	24	150	160	60		Series 62	M6284D1000-S	No internal balance circuit, requires Q181 for aux. pot and when using R927
M944J1051	M6284D1000-S				160°	24	150	160	60		Series 62	M6284D1000-S	
M944K1001	M6284D1000-S	50017460-003	220736B		160°	120	150	160	60	2	Series 62	M6284F1013-S	No internal balance circuit, change control circuit to 24 Vac; Requires 50017460-003
M944K1019	M6284D1000-S	50017460-003	220736B		160°	120	150	160	60	2	Series 62	M6284F1013-S	
M944L1018	M9184D1021	50017460-003			ADJ	120	150	90/160	120/240		135 ohm	None	

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		
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-S	50017460-003	220736A		160°	120	150	160	120	1	Series 62	None	Carrier Special; Check timing and stroke, requires Q181 when using R927
M944R1020	M6294D1008-S	50017460-003	220736B		160°	120	150	160	120	2	Series 62	None	
M944S1001	M6284D1000-S	50017460-003	220736B		ADJ	120	75	90/160	15/30	2	Series 62	None	M6284 is 30/60 sec timing, No internal balance circuit
M944S1019	M6284D1000-S	50017460-003	220736B		ADJ	120	150	90/160	30/60	2	Series 62	M6284F1013-S	No internal balance circuit; Requires 50017460-003
M944S1027	M6284D1000-S	50017460-003	220736B		ADJ	120	150	90/160	30/60	2	Series 62	M6284F1013-S	
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	M9185A1018	
M945A1082	M9185D1004				90°	24	50	90	35		135 ohm	M9185A1018	
M945A1090	M9185D1004				160°	24	50	160	60		135 ohm	M9185D1004	
M945A1108	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	York Special

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		
M945A1116	M9185D1004				90°	24	50	90	35		135 ohm	M9185A1018	
M945A1124	M9185D1004				90°	24	50	90	35		135 ohm	M9185A1018	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	M6285A1005-S				90°	24	25	90	60		Series 62	None	Trane Special, No internal balance circuit
M945B1057	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	No internal balance circuit, requires Q181 when using R927
M945B1065	M6285A1005-S				90°	24	50	90	30		Series 62	M6285A1005-S	
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	M6285A1005-S	50017460-003			90°	120	50	90	30		Series 62	None	Trane Special, no internal balance circuit
M945B4002	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	Canada Special, no internal balance circuit, requires Q181 when using R927
M945C1007	M6285A1005-S		220736B		160°	24	50	160	60	2	Series 62	M6285C1001-S	No internal balance circuit, requires Q181 when using R927
M945C1015	M6285A1005-S		220736B		160°	24	50	160	60	2	Series 62	M6285C1001-S	
M945C1031	M6285A1005-S		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
M945E1013	M9185D1004			Q181A1004	160°	24	50	160	60		135 ohm	M9185A1018	Add Q181 for slaved motor applications
M945F1004	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	Use aux. motor end; N.O. - replacement is normally closed

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		
M945F1038	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	Use aux. motor end; For use with W899M systems, N.O. - replacement is normally closed
M945F1046	M9185D1004	50017460-001			160°	208	50	160	60		135 ohm	None	Use aux. motor end; N.O.
M945F1053	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	York Special, N.O.; Use aux. motor end - replacement is normally closed
M945F4008	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	Canada Special, N.O.; Use aux. motor end - replacement is normally closed
M945G1003	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	Use aux. motor end; No internal balance circuit, requires Q181 when using R927
M945G1037	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	
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	50017460-003	220736B		160°	120	50	160	60	2	135 ohm	None	
M945K1008	M6285A1005-S		220736B		160°	24	50	160	60	2	Series 62	M6285C1001-S	No internal balance circuit
M945K1016	M6285A1005-S		220736B		160°	24	50	160	60	2	Series 62	M6285C1001-S	
M945L1007	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	No internal balance circuit, requires Q181 when using R927
M945L1015	M6285A1005-S				160°	24	50	160	60		Series 62	M6285A1005-S	
M945M1006	M9185D1004				160°	24	50	160	60		135 ohm	M9185A1018	
M945M1022	M9185D1004	50017460-001			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-S			Q181A1004	160°	24	50	160	60		Series 62	M6285A1005-S	Add Q181 for slaved motor applications
M945Y1010	None					24	50	90	60		135 ohm	None	Nesbitt Special

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		
M945Z1001	M9185D1004		220736B		160°	24	50	160	60	2	135 ohm	M9185A1018	N.O.; Requires Q607B1067 - replacement is normally closed
M945Z1019	M9185D1004	50017460-001			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	M9184D1021	50017460-003	220736B		160°	120	75	160	30	2	135 ohm	M9184D1005	Requires 50017460-001
M954B1067	M9184D1021		220736B		160°	24	150	160	60	2	135 ohm	M9184F1034	
M954B1075	M9184D1021		220736B		90°	24	150	90	30	2	135 ohm	None	Cleaver Brooks Special
M954C1009	M9184D1021		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	M9184D1021		220736A		160°	24	75	160	30	1	135 ohm	M9184D1005	
M954C1058	M9184D1021		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034	
M954C1066	M9184D1021		220736A		90°	24	150	90	30	1	135 ohm	M9184F1034	
M954C1074	M9184D1021		220736A		160°	24	150	160	60	1	135 ohm	M9184F1034	
M954C1082	M9184D1021		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	M9184D1021		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	

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		
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	M9185A1018	
M955D1039	M9185D1004	50017460-003			90°	120	50	90	30		135 ohm	None	
M955D1047	M9185D1004				90°	24	50	90	30		135 ohm	M9185A1018	Lennox Special
M955D1054	M9185D1004				90°	24	50	90	30		135 ohm	M9184D1021	York Special
M955E1004	M9185D1004	50017460-003	220736A		90°	120	50	90	30	1	135 ohm	None	
M955E1012	M9185D1014	50017460-003	220736A	Q209E	90°	120	50	90	30	1	135 ohm	None	Trane Special, includes Q209C
M965A1007	M9185D1004				160°	24	25	160	40		135 ohm	M9185D1004	
M965A1015	M9185D1004				160°	24	25	160	40		135 ohm	M9185D1004	For use with W963B systems
M965A1023	M9185D1004	50017460-003			160°	120	25	160	40		135 ohm	None	
M965A1031	M9185D1004	50017460-003			90°	120	25	90	23		135 ohm	None	York Special
M965A1049	M9185D1004	50017460-003			90°	120	25	90	23		135 ohm	M9185D1004	Requires 50017460-003
M965A1064	M9185D1004				90°	24	25	90	23		135 ohm	M9185D1004	No balance relay
M965A1072	M9185D1004				90°	24	25	90	23		135 ohm	M9185D1004	Trane Special
M965B1006	M9185D1004		220736B		160°	24	25	160	40	2	135 ohm	None	
M965B1014	M9185D1004	50017460-001	220736B		90°	240	25	90	23	2	135 ohm	None	
M965B1022	M9185D1004		220736A		90°	24	25	90	23	1	135 ohm	None	



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		
M965B1030	M9185D1004		220736B		160°	24	25	160	40	2	135 ohm	None	Reznor Special
M975A1006	M9185D1004				160°	24	25	160	40		135 ohm	M9185D1004	
M975A1014	M9185D1004				90°	24	25	90	23		135 ohm	M9185D1004	
M975A1022	M9185D1004	50017460-003			160°	120	25	160	40		135 ohm	M9185D1004	Requires 50017460-003
M975A1030	M9185D1004	50017460-003		Q209E	90°	120	25	90	23		135 ohm	None	Trane Special
M975A1055	M9185D1004	50017460-003		Q209E	160°	120	25	160	40		135 ohm	None	Carrier Special
M975A1071	M9185D1004				160°	24	25	160	40		135 ohm	M9185D1004	
M975A1089	M9185D1004				160°	24	25	160	40		135 ohm	M9185D1004	
M975A1097	M9185D1004	50017460-003			160°	120	25	160	40		135 ohm	M9185D1004	Requires 50017460-003
M975B1005	M9185D1004		220736B		160°	24	25	160	40	2	135 ohm	None	
M975B1013	M9185D1004	50017460-001	220736B		160°	240	25	160	40	2	135 ohm	None	
M975B1021	M9185D1004	50017460-003	220736A	Q209E	90°	120	25	90	23	1	135 ohm	None	Trane Special
M975B1039	M9185D1004	50017460-003	220736B	Q209E	160°	120	25	160	40	2	135 ohm	None	Carrier Special
M975B1047	M9185D1004	50017460-003	220736B		90°	120	25	90	23	2	135 ohm	None	Trane Special, aux. switches set at 35°
M975B1062	M9185D1004	50017460-003	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						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M4172A1006	M8185D1006	50017460-003			60		M4185A1001	
M4172B1004	M4185B1058				60	1	M4185B1009	
M4175D1015	M4185B1058				30/60		None	
M4175E1012	M8185D1006	50017460-003	220736A		30/60	1	None	
M4182A1004	M8185D1006	50017460-003			60		M4185A1001	
M4182B1002	M8185D1006	50017460-003	220736A		60	1	M4185B1009	
M4182B1010	M8185D1006	50017460-001	220736A		60	1	M4185B1017	
M4182B1028	M8185D1006	50017460-001	220736A		60	1	None	
M4182B1036	M4185B1009				30	1	M4185B1058	
M4182B1044	M8185D1006	50017460-001	220736A		30	1	M4185B1058	
M4182B1051	M8185D1006	50017460-003	220736A	4074ERU	30	1	M4185B1058	With weatherproof kit; Requires 4074ERU
M4182B1069	M8185D1006	50017460-003	220736A	4074ERU	60	1	M4185B1009	
M4185A1001	N/A				60		N/A	
M4185A1019	M8185D1006	50017460-003			67		None	
M4185A1027	M8185D1006	50017460-003			60		M4185A1001	
M4185B1009	N/A				60	1	N/A	
M4185B1017	M4185B1058				60	1	M4185B1017	
M4185B1025	M8185D1006	50017460-001	220736A		60	1	None	
M4185B1033	M8185D1006	50017460-003	220736A		60	1	M4185B1009	
M4185B1041	M8185D1006	50017460-001	220736A		60	1	M4185B1017	
M4185B1058	N/A				30	1	N/A	
M4185B1066	M8185D1006	50017460-003	220736A		30	1	M4185B1058	
M4185B1074	M8185D1006	50017460-001	220736A		60	1	None	
M4185C1007	N/A				30	2	None	
M4185D1013	M8185D1006	50017460-003			30		None	
M4185E1010	M8185D1006	50017460-003	220736A		30	1	None	
M4185E4006	N/A				30/60	1	None	Canada TRADELINE
M4185E4014	N/A				30/60	1	None	Canada TRADELINE
M4186H1005	M8185D1006	50017460-003	220736A		60	1	M4185B1009	Use auxiliary shaft

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M4186H4009	M8185D1006	50017460-003	220736A		60	1	None	Canada, use auxiliary shaft
M4186L4000	M8185D1006	50017460-003	220736A		30/60	1	None	
M6161A1004	M6184A1023				30		M6184A1015	
M6161B1002	M6184D1035	50017460-003	220736A		30	1	None	
M6174A1009	M6184D1035				60		None	Includes aux. switch cams
M6174D1003	M6184D1035	50017460-003			30/60		M6184D1035	
M6181A1000	M6184D1035				60		None	Less junction box
M6181A1018	M6184A1015				60		None	
M6181A1026	M6184D1035				30		M6184A1015	
M6181A1034	M6184A1023				30		M6184A1023	
M6181A1042	M6184D1035	50017460-003			60		None	
M6181A1059	M6184D1035				60		None	Carrier
M6181D1004	M6184D1035				15/30		M6184D1001	
M6181F1009	M6184D1035		220736B		30/60	2	M6184F1014	
M6181F1017	M6184D1035	50017460-001	220736B		30/60	2	M6184F1014	Replacement requires 50017460-001
M6182D1003	None				15/60		None	Carrier
M6182D1011	None				Select		None	
M6182F1008	None				15/60	2	None	
M6182F1016	M6285A1005-S				30/60	2	None	With weatherproof kit
M6184A1007	M6184D1035				60		None	
M6184A1015	N/A				30		N/A	
M6184A1023	N/A				30		N/A	
M6184A1031	M6184D1035				60		None	Carrier
M6184A1049	M6184D1035	50017460-003			30		M6184A1023	
M6184A1056	M6184D1035				30		None	Trane
M6184B1005	M6184D1035	50017460-003	220736A		120	1	None	
M6184B1013	N/A				120	1	None	Trane
M6184B1021	M6184D1035		220736A		60	1	M6184F1014	
M6184D1001	N/A				15/30		N/A	
M6184D1035	N/A				30/60		N/A	TRADELINE

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M6184D1050	M6184D1035				15/30		M6184D1001	
M6184D1068	N/A				120/240		N/A	
M6184D1076	M6184D1035				30/60		None	Trane
M6184F1006	M6184D1035		220736B		30/60	2	M6184F1014	
M6184F1014	N/A				30/60	2	N/A	
M6185D1000	M6285A1005-S				30/60		None	
M6191A1008	M6194D1017	50017460-003			120		None	
M6191B1006	M6194D1017		220736A		60	1	M6194B1011	
M6191D1002	M6284D1008-S				120/240		M6194D1017	
M6191D1010	M6194D1017	50017460-003			120/240		None	York
M6194A1005	N/A				120		None	OEM
M6194A1021	M6194D1017				120		None	With aux. switch cams
M6194B1003	M6194D1017		220736A		60	1	M6194B1011	
M6194B1011	N/A		220736A		60	1	N/A	
M6194B1029	N/A				120	1	N/A	Requires 50017460-003 - Trane
M6194B1037	M6194D1017	50017460-003	220736A		120	1	None	Trane
M6194B1045	M6194D1017	50017460-003	220736A		120	1	M6194E1006	Requires 50017460-003
M6194D1017	N/A				120/240		N/A	TRADELINE
M6194D1025	M6194D1017				120/240		None	Lennox
M6194D1033	M6194D1017				120/240		None	York
M6194D1041	M6194D1017			220741A2-61	120/240		None	Japan, includes 220741A
M6194D4003	N/A				120/240		N/A	Canada TRADELINE
M6194E1006	N/A		220736A		120/240	1	N/A	
M6194E1014	M6194D1017		220736A	4074ERU	120/240	1	M6194E1006 + 4074ERU	Includes weatherproof kit
M6194F1004	M6194D1017		220736B		120/240	2	None	
M6281A1009	M6284D1000-S				60		M6284A1055-S	
M6281F1008	M6284D1000-S		220736B		30/60	2	M6284F1013-S	
M6281F1016	M6284F1062-S	50017460-003	220736B		30/60	2	M6284F1013-S	Requires 50017460-003
M6282A1008	M6285A1005-S				60		M6285A1005-S	
M6282A1016	M6285A1005-S	50017460-003			30		None	Trane

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M6282A1024	M6285A1005-S				60		None	
M6282A1032	M6285A1005-S	50017460-003			60		None	
M6282B1006	M6285A1005-S		220736A		30	1	None	
M6282E1009	M6282A1009-F				15/60	1	None	Carrier
M6284A1006	M6284D1000-S				60		M6284A1055-S	
M6284A1014	M6284D1000-S	50017460-003			60		M6284A1055-S	
M6284A1022	M6284D1000-S	50017460-003			30		M6284A1055	
M6284A1030	M6284A1030-S				60		None	Japan, includes 220741A
M6284A1048	M6284A1055-S				60		M6284A1055-S	
M6284A1055	M6284A1055-S				30		M6284A1055-S	
M6284A1063	M6284D1000-S	50017460-003		220741A2-62	60		M6284A1055-S + 4074ERU	Includes 220741A
M6284A1071	M6284A1071-S				30		M6284A1071-S	
M6284A1089	M6284A1089-S				15		M6284A1089-S	
M6284A1097	M6284A1097-S				30		M6284A1097-S	
M6284B1004	M6284B1004-S				240	1	None	Trane
M6284C1002	M6284D1000-S		220736B		30	2	M6284F1013-S	
M6284C1010	M6284C1010-S				30	2	None	Includes 220741A
M6284C1028	M6284C1028-S				30	2	None	Japan, includes 220741A
M6284C1036	M6284D1000-S	50017460-003	220736B	4074ERU	60	2	None	Includes weatherproof kit
M6284C1044	M6284C1044-S				30	2	None	
M6284D1000	M6284D1000-S				30/60		M6284D1000-S	TRADELINE
M6284D1026	M6284D1026-S				30/60		None	Includes 220741A
M6284D4004	M6284D4004-S				30/60		N/A	Canada TRADELINE
M6284F1005	M6284D1000-S		220736B		30/60	2	M6284F1013-S	
M6284F1013	M6284F1013-S		220736B		30/60	2	N/A	
M6284F1021	M6284D1000-S	50017460-003	220736B		30/60	2	M6284F1013-S	Requires 50017460-003
M6284F1039	M6284F1039-S				30/60	2	N/A	Japan, includes 220741A
M6284F1047	M6284D1000-S	50017460-003	220736B		30/60	2	M6284F1013-S	Requires 50017460-003
M6284F1054	M6284F1062-S				30/60	2	None	
M6285A1005	M6285A1005-S				60		N/A	TRADELINE

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M6285A1013	M6285A1005-S				30		N/A	
M6285A1021	M6285A1005-S	50017460-003			30		None	
M6285A1039	M6285A1039-S				60		None	Trane
M6285A1047	M6285A1047-S				60		None	Japan, includes 220741A
M6285A1054	M6285A1054-S				60		None	Snyder General
M6285A4009	M6285A4009-S				60		M6285A4009-S	Canada TRADELINE
M6285B1003	M6285A1005-S		220736A		30	1	None	
M6285C1001	M6285C1001-S				60	2	M6285C1001-S	
M6286G1001	M6285A1005-S				60		M6285A1005-S	Use auxiliary shaft
M6286G1019	M6285A1005-S	50017460-001			60		None	
M6286G1027	M6285A1005-S			220741A2-62	60		M6285A1005-S + 4074ERU	Japan, includes 220741A, use auxiliary shaft
M6294A1004	M6294D1008-S	50017460-003			240		None	
M6294B1002	M6294D1008-S		220736A		240	1	None	
M6294B1010	M6294D1008-S	50017460-003	220736A		240	1	None	
M6294B1028	M6294D1008-S	50017460-003	220736A		240	1	None	Trane
M6294B1036	M6294B1036-S				120	1	None	
M6294C1000	M6294D1008-S	50017460-003	220736B	220741A	60	2	None	Includes 220741A
M6294D1008	M6294D1008-S				120/240		M6294D1008-S	
M7161A1002	M9164D1009	50017460-003		Q7130A1006	30		None	
M7161B1000	M9164D1009	50017460-003	220736A	Q7130A1006	60	1	None	
M7161B1018	M9164D1009	50017460-003	220736A	Q7130A1006	60	1	None	Trane
M7161G1009	M9164D1009	50017460-003		Q7130A1006	30		M7164G1030	
M7161G1017	M9164D1021	50017460-003		Q7130A1006	30		None	
M7161G1025	M9164D1009			Q7130A1006	60		None	
M7164A1009	M9164D1009			Q7130A1006	60		None	
M7164A1017	N/A				30		N/A	
M7164A1025	M9164D1009			Q7130A1006	30		None	Lennox
M7164A1033	M9164D1009			Q7130A1006	60		None	
M7164A1041	M9164D1009			Q7130A1006	60		None	
M7164A1058	M9164D1009	50017460-001		Q7130A1006	30		M7164A1017	

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M7164B1007	M9164D1009	50017460-003	220736A	Q7130A1006	60	1	None	
M7164G1006	M9164D1009	50017460-003		Q7130A1006	30		M7164G1030	
M7164G1014	M9164D1009	50017460-003		Q7130A1006	30		None	
M7164G1022	M9164D1009			Q7130A1006	60		None	
M7164G1030	N/A				30		N/A	
M7183G1003	M9185D1004			Q7130A1006	60		N/A	Use auxiliary shaft
M7184A1005	M9184D1021			Q7130A1006	60		None	
M7184A1013	None				30		None	
M7184A1021	None				30		None	
M7185A1004	M9185D1004			Q7130A1006	60		N/A	
M7186G1000	M9185D1004			Q7130A1006	60		N/A	Use auxiliary shaft
M7261A1001	N/A				60		N/A	Trane
M7272A1008	M9185D1004	50017460-003		Q7230A1005	30		None	
M7274A1006	M9174D1007			Q7230A1005	60		N/A	
M7274G1003	M9174D1007			Q7230A1005	60		N/A	
M7281A1007	M7284A1004				30		M7284A1004	Includes 220741A
M7281C1003	M9184D1021	50017460-003	220736B	Q7230A1005	30	2	M7284C1000	
M7281C1011	M9184D1021	50017460-003	220736B	Q7230A1005	60	2	M7284C1018	
M7281Q1002	M7284Q1009				30	2	M7284Q1009	Includes 203709D
M7282A1006	M9185D1004	50017460-003		Q7230A1005	30		M7285A1003	Includes 220741A
M7282A1014	N/A				30		N/A	Trane
M7282A1022	N/A				30		N/A	Trane, with wiring harness
M7282B1004	M9185D1004	50017460-003	220736A	Q7230A1005	30	1	None	Trane
M7282B1012	N/A				30	1	N/A	
M7282C1002	M9185D1004	50017460-003	220736B	Q7230A1005	30	2	None	
M7282D1000	N/A				15/60		N/A	Carrier, with 205118A
M7282D1018	M7282D1000	50017460-001			15/60		None	Carrier
M7282F1005	M7282D1000		220736B		15/60	2	None	Carrier, 205118A and crank arm
M7284A1004	N/A				30		N/A	Includes 220741A
M7284A1012	N/A				60		N/A	



Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M7284A1020	M9184D1021	50017460-003		Q7230A1005	60		M7284A1012	
M7284A1038	N/A				15		N/A	
M7284A1046	M7284A1004				30		M7284A1004	
M7284A1053	N/A				30		N/A	Trane
M7284A1061	M9184D1021	50017460-003		Q7230A1005	60		None	
M7284A1079	N/A				60		N/A	
M7284A1087	N/A				30		N/A	Trane
M7284C1000	N/A				30	2	N/A	Includes 220741A2-72
M7284C1018	M7284C1000				60	2	N/A	
M7284C1026	M9184D1021	50017460-003	220736B	Q7230A1005	30	2	M7284C1000	includes 220741A2-72
M7284C1034	M9184D1021	50017460-003	220736B	Q7230A1005	60	2	M7284C1018	includes 220741A2-72
M7284C1042	M9184D1021		220736B	Q7230A1005	30	2	None	International, incl.220741A
M7284C1059	M7284C1083				30	2	None	Enhanced
M7284C1067	M7284C1091				30	2	None	
M7284G1001	M9184D1021			Q7230A1005	60		M7284A1079	
M7284Q1009	N/A				30	2	N/A	Includes 203709D
M7284Q1017	M7284Q1009				60	2	None	
M7284Q1025	M7284Q1009				30		None	International, incl.203709D
M7284Q1033	M7284Q1082				30	2	None	Enhanced
M7284Q1041	M7284Q1090				60	2	None	
M7285A1003	N/A				30		N/A	Includes 220741A
M7285A1011	M7285A1003				60		None	
M7285A1029	M9185D1004			Q7230A1005	60		None	
M7285A1037	M9185D1004			Q7230A1005	60		None	
M7285A1045	N/A				60		N/A	
M7285A1052	M9185D1004			Q7230A1005	30		None	
M7285B1001	M9185D1004		220736A	Q7230A1005	30	1	None	Trane
M7285C1009	N/A				30	2	N/A	Includes 220741A
M7285C1017	M7284C1009				60	2	None	
M7285C1025	M9185D1004		220736B	Q7230A1005	60	2	None	

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M7285C1033	M9185D1004		220736B	Q7230A1005	60	2	None	
M7285Q1008	N/A				30	2	N/A	Includes 203709D
M7285Q1016	M7285Q1008				60	2	N/A	
M7286G1009	N/A				60		N/A	
M7294A1002	M9194D1003	50017460-003		Q7230A1005	60		M7294Q1007	Includes 220741A
M7294A1010	N/A				120		N/A	
M7294G1009	M7294A1010				120		None	
M7294Q1007	N/A				60	2	N/A	Includes 203709D
M7361A1000	M9164D1009	50017460-003		Q7330A1004	30		None	
M7361A1018	None				60		None	Liebert, with 203709B
M7364A1007	M9164D1009	50017460-003		Q7330A1004	60		None	
M7364A1015	M9164D1009	50017460-003		Q7330A1004	30		None	
M7364A1023	M9164D1009			Q7330A1004	60		None	
M7364A1031	M9164A1070	50017460-001		Q7330A1004	60		None	Liebert
M7381A1006	None				60		None	Liebert, with 203709B board
M7382A1005	None				60		None	Liebert
M7384A1003	M9184D1021			Q7330A1004	60		None	
M7384A1011	M9184D1021			Q7330A1004	30		None	
M7384A1029	None				60		None	Liebert
M7385A1002	M9185D1004			Q7330A1004	30		None	
M7385A1010	M9185D1004	50017460-003		Q7330A1004	60		None	Includes isolation transformer
M7385A1028	M9185D1004	50017460-003		Q7330A1004	60		None	
M7385A1036	M9185D1004			Q7330A1004	60		None	
M7385A1044	M9185A1018	50017460-001		Q7330A1004	60		None	Liebert
M7484A1002	None				30		None	Cleaver Brooks
M7484A1010	None				30		None	
M7675A1001	M9185D1004			Q7630A1001	60		None	
M7675A1019	M9185D1004	50017460-003		Q7630A1001	30		None	Trane
M7675G1008	M9185D1004			Q7630A1001	60		None	
M7682A1010	M9185D1004			Q7630A1001	60		None	Includes Q209F1001

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M7685A1009	M9185D1004			Q7630A1001	60		None	
M7685A1017	M9185D1004			Q7630A1001	30		None	
M7685A1025	M9185D1004			Q7630A1001	30		None	
M7685A1033	M9185D1004	50017460-003		Q7630A1001	60		None	York
M7685A1041	M9185D1004			Q7630A1001	30		None	Lennox
M7685G1006	M9185D1004			Q7630A1001	30		None	
M7964A1001	None				30		None	
M7964B1009	None				30		None	Nesbitt ITT
M7964B1017	None				60		None	
M7964C1007	None				30		None	
M7964C1015	None				30		None	
M7964D1005	None				60		None	
M7964D1013	None				60		None	
M7975E1009	None				30		None	
M7975E1017	None				30		None	
M7983G1005	None				60		None	IBM
M7984D1001	None				60		None	Includes 220741A
M7984N1008	None				30		None	
M7985D1000	None				60		None	
M8175B1002	M8185D1006		220736A		60	1	None	
M8182A1005	M8185D1006				60		M8185A1002	
M8182B1003	M8185D1006		220736A		60	1	None	
M8182B1011	M8185D1006		220736A	4074ERU	60	1	None	Includes weatherproof kit
M8185A1002	M8185D1006				60		M8185A1002	
M8185A1010	M8185D1006				60		M8185D1006	
M8185A1028	None				60		None	
M8185B1000	M8185D1006		220736A		60	1	None	
M8185B1018	M8185D1006				60	1	M8185D1006	
M8185B1026	None				60	1	None	
M8185B1034	M8185D1006		220736A		60	1	None	

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M8185D1006	N/A				30/60		N/A	TRADELINE
M8186G1008	M8185D1006				60		None	Includes aux. switch cams, use aux. shaft
M9161A1008	M9164D1009	50017460-003			60		M9164A1005	
M9161A1016	M9164D1009				60		M9164A1005	Wire to 24 Vac
M9161A1024	M9164A1005				30		None	
M9161A1032	M9164A1005				60		None	Carrier
M9161A1040	M9164D1009	50017460-003		4074ERU	30		M9164A1005 + 4074ERU	Includes weatherproof kit
M9161C1004	M9164C1001		220736B		60	2	M9164C1068	Wire to 24 Vac
M9161C1012	M9164C1068				30	2	None	
M9161V1009	N/A				60		N/A	Carrier
M9164A1005	N/A				30		N/A	
M9164A1013	N/A				60		N/A	
M9164A1021	M9164A1005				60		M9164A1005	
M9164A1039	M9164D1009	50017460-003			60		M9164A1005	
M9164A1047	M9164D1009	50017460-001			60		M9164A1013	
M9164A1054	M9164D1009	50017460-003			30		M9164A1005	
M9164A1062	M9164D1009				30		M9164A1005	Wire to 24 Vac
M9164A1070	N/A				60		N/A	
M9164A1088	M9164A1013				60		None	
M9164A1096	M9164D1009	50017460-003			60		M9164A1005	
M9164A1104	M9164D1009	50017460-003			60		None	Carrier
M9164A1112	M9164D1009	50017460-001			30		None	York
M9164A1120	M9164D1009				30		M9164A1005	Wire to 24 Vac
M9164A1138	M9164D1009	50017460-003			60		None	Carrier
M9164B1003	M9164D1009	50017460-003	220736A		30	1	M9164C1068	
M9164C1001	N/A				60	2	N/A	Wire to 24 Vac
M9164C1019	M9164D1009	50017460-003	220736B		60	2	M9164C1068	
M9164C1027	M9164D1009	50017460-001	220736B		60	2	None	
M9164C1035	M9164D1009	50017460-003	220736B		30	2	M9164C1068	
M9164C1043	M9164D1009	50017460-003	220736B		60	2	M9164C1068	

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M9164C1050	M9164C1068				60	2		
M9164C1068	N/A				30	2	N/A	
M9164D1009	N/A				30/60		N/A	TRADELINE
M9164V1006	N/A				60		N/A	Carrier
M9164V1014	M9164D1009				60		None	
M9164V1022	M9164D1009			Q209E1010	60		None	Carrier, with Q209E, crank arm
M9171A1006	M9174B1027	50017460-003			60		M9174B1027	
M9171B1004	M9184D1021	50017460-003	220736A		60	1	M9174B1027	
M9171B1012	M9174D1007	50017460-003	220736A		30	1	M9174B1027	
M9171B1020	None				30	1	None	Cleaver Brooks
M9171C1002	M9174C1025		22036B		30	2	M9174C1025	
M9171C1010	M9174D1007	50017460-003	220736B		30	2	9174C1041	Cleaver Brooks
M9172A1005	M9185D1004				60		None	
M9172A1013	M9185D1004				60		None	
M9172A1021	M9185D1004				60		None	Carrier
M9172C1001	M9185D1004		220736B		60	2	None	Reznor
M9172W1004	M9185D1004	50017460-003	220736A	Q209E1010	30	1	None	Trane, with Q209E1010
M9172W1012	N/A				60	1	N/A	Carrier
M9174B1001	M9174D1007	50017460-003	220736A		60	1	M9174B1027	
M9174B1019	M9174D1007	50017460-003	220736A		30	1	M9174B1027	Requires 220738A
M9174B1027	N/A				30	1	N/A	
M9174B1035	M9184D1021	50017460-003	220736A		30	1	None	Cleaver Brooks
M9174B1043	M9174B1027				60	1	M9174B1027	
M9174C1009	M9174D1007	50017460-003	220736B		60	2	M9174C1033	
M9174C1017	M9174D1007	50017460-003	220736B		30	2	M9174C1025	
M9174C1025	N/A				30	2	N/A	
M9174C1033	N/A				60	2	N/A	
M9174C1041	N/A				30	2	None	Cleaver Brooks
M9174D1007	N/A				30/60		N/A	TRADELINE
M9175A1002	M9185D1004				60		None	

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M9175A1010	M9185A1018			221455A	30		None	Includes crank arm
M9175A1028	M9185D1004				60		None	
M9175A1036	M9185D1004	50017460-003			30		None	York
M9175A1044	M9185D1004	50017460-003			30		None	
M9175A1051	M9185A1018				30		None	
M9175A1069	M9185D1004				60		None	Carrier
M9175A1077	M9185D1004				30		None	Trane
M9175B1000	N/A				30	1	N/A	
M9175C1008	M9185D1004	50017460-003	220736A		30	2	None	Reznor
M9175D1006	M9185A1018	50017460-003			30/60		M9185D1004	Requires 50017460-003
M9175D1014	M9185D1004				30/60		M9185D1004	TRADELINE
M9175V1003	M9185D1004	50017460-003			30		None	Trane
M9175V1011	None				60		None	Carrier, leadwires
M9175W1001	M9185D1004	50017460-003	220736A		60	1	None	Carrier
M9175W1019	M9185D1004	50017460-003	220736A		30	1	None	Trane
M9175Y1007	M9185D1004	50017460-003	220736B		30	2	None	
M9181A1004	M9184D1021				60		M9184A1019	
M9181A1012	M9184A1019				60		None	
M9181A1020	M9184D1021				60		M9184A1019	
M9181A1038	M9184D1021				30		M9184A1035	
M9181B1002	M9184D1021		220736A		30	1	M9184C1031	
M9181B1010	M9184D1021		220736A		60	1	None	
M9181B1028	None				30	1	None	Cleaver Brooks
M9181C1000	None				30	2	None	
M9181D1008	M9184D1021				15/30		M9184D1005	
M9181D1016	N/A				120/240		N/A	Trane
M9181D1024	None				60/120/240		None	Special Timing
M9182A1003	M9185D1004				60		M9185A1018	Less junction box
M9182A1011	N/A				60		N/A	

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M9182A1029	M9185A1018				30		None	
M9182A1037	M9185D1004	50017460-003			30		None	Trane
M9182A1045	M9185D1004				60		M9185A1018	
M9182A1052	M9185D1004			4074ERU	60		M9185A1018 + 4074ERU	Includes weatherproof kit
M9182A1060	M9185D1004	50017460-003			30		None	York
M9182C1009	M9185C1006				60	2	None	
M9182C1017	M9185D1004		220736B		30	2	None	
M9182D1007	M9185D1004				30/60		M9185D1004	Less junction box
M9182D1015	M9185D1004				30/60		M9185D1004	
M9182D1023	N/A				60/120/ 240		N/A	Special Timing
M9182D1031	M9185D1004	50017460-001		Q209E1010	30/60		None	Includes Q209E
M9182D4001	M9185D4008				30/60		M9185D1004	Canada
M9182W1002	M9185D1004	50017460-003	220736A	Q209E1010	30	1	None	Trane, includes Q209E
M9183G1009	M9185D1004				60		M9185A1018	Use auxiliary shaft
M9184A1001	M9184D1021				60		M9184A1019	
M9184A1019	N/A				60		N/A	
M9184A1027	M9184D1021				30		M9184A1035	
M9184A1035	M9184D1021				30		M9184A1019	
M9184A1043	M9184D1021			220741A2-90	60		M9184A1019	Japan; replacement requires 220741A
M9184B1009	N/A				30	1	N/A	Cleaver Brooks
M9184B1017	N/A				30	1	N/A	
M9184B1025	N/A				30	1	N/A	Cleaver Brooks
M9184B1033	M9184D1021		220736A		60	1	M9184F1034	With tapped shaft
M9184B1041	M9184D1021		220736A	4074ERU	30	1	M9184C1031	Includes weatherproof kit
M9184C1007	M9184D1021		220736B		30	2	M9184C1031	With tapped shaft
M9184C1015	M9184D1021		220736B		60	2	None	
M9184C1023	N/A				30	2	N/A	Cleaver Brooks
M9184C1031	N/A				30	2	N/A	With tapped shaft
M9184C1049	N/A				30	2	N/A	Cleaver Brooks

Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M9184D1005	N/A				15/30		N/A	
M9184D1013	M9184D1021				30/60		none	TRADELINE
M9184D1021	N/A				30/60		N/A	TRADELINE, with tapped shaft
M9184D1039	M9184D1021			220741A2-90	15/30		M9184D1005	Japan; replacement requires 220741A
M9184D1047	M9184D1021				15/30		M9184D1005	
M9184D1054	M9194D1003				120/240		None	
M9184D1062	M9184D1021				30/60		M9184D1021	
M9184D4009	N/A				30/60		N/A	Canada, TRADELINE
M9184E4006	N/A		220736A		30/60	1	None	Canada, TRADELINE, tapped shaft
M9184F1000	M9184F1034				30/60	2	None	
M9184F1018	M9184D1021		220736B		30/60	2	M9184F1034	With tapped shaft
M9184F1026	M9184D1021		220736B	220741A2-90	30/60	2	M9184F1034	Requires 220741A
M9184F1034	N/A		220736B		30/60	2	N/A	With tapped shaft
M9185A1000	M9185D1004				60		M9185A1018	
M9185A1018	N/A				60		N/A	
M9185A1026	M9185A1018				30		None	
M9185A1034	M9185D1004				60		M9185A1018	
M9185A1042	M9185D1004	50017460-003			30		M9185A1026	Requires 50017460-003
M9185A1059	M9185D1004				30		None	Lennox
M9185A1067	M9185D1004				30		None	York
M9185A1075	N/A			220741A	60		N/A	Requires 220741A
M9185A1083	M9185D1004				60		M9185A1018	
M9185A1091	M9185D1004				30		M9185A1018	Less junction box
M9185B1008	M9185D1004	50017460-003	220736A		30	1	None	
M9185C1006	N/A		220736B		60	2	N/A	
M9185C1014	M9185D1004		220736B		60	2	None	
M9185C1022	M9185D1004		220736B		60	2	None	
M9185D1004	N/A				30/60		N/A	TRADELINE
M9185D1012	M9185D1004				30/60		M9185D1004	
M9185D4008	N/A				30/60		N/A	Canada, TRADELINE



Table 4. Modutrol IV Cross Reference to Modutrol IV.

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINE Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M9185E1001	M9185D1004		220736A		30/60	1	M9185E1019	
M9185E1019	N/A				30/60	1	N/A	
M9185E4005	N/A		220736A		30/60	1	N/A	Canada, TRADELINE, tapped shaft
M9185F1009	None				30/60	2	None	Carrier (W957G1006)
M9185W1017	M9185D1004	50017460-003	220736A	Q209E1010	30	1	None	Trane, with Q209E
M9186G1006	M9185A1018				60		None	Use auxiliary shaft
M9186G1014	M9185D1004			220741A2-90	60		M9185A1018	Japan, use auxiliary shaft
M9186G4000	M9185E4005				60		None	Canada, use auxiliary shaft
M9191D1006	M9194D1003				120/240		M9194D1003	
M9191F1001	N/A		220736B		120/240	2	N/A	
M9194C1005	N/A				60	2	N/A	
M9194D1003	N/A				120/240		N/A	TRADELINE
M9194D4007	M9194D1003				120/240		None	Canada, TRADELINE
M9194E1000	N/A				120/240	1	N/A	
M9481D1005	M9484F1007				30/60		M9484D1010	
M9481E1002	M9484F1007				30/60	1	M9484E1017	
M9481F1000	M9484F1007				30/60	2	None	
M9484D1002	None				15/30		M9484D1010	
M9484D1010	N/A				30/60		N/A	With tapped shaft
M9484D1028	none				30/60		M9484D1010	
M9484D1036	None				15/30		M9484E1009	
M9484D1044	None				30/60		M9484D1010	With tapped shaft
M9484D1051	None				30/60		M9484D1010	
M9484D4006	N/A				30/60		N/A	Canada, tapped shaft, 220741A
M9484E1009	N/A				15/30	1	N/A	With tapped shaft
M9484E1017	N/A				30/60	1	N/A	
M9484E1025	None				30/60	1	M9484E1033	
M9484E1033	N/A				30/60	1	N/A	
M9484E1041	None				30/60	1	M9484E1033	With 221455A
M9484E1058	None				30/60	1	M9484E1033	

**Table 4. Modutrol IV Cross Reference to Modutrol IV.**

OS # to be Replaced	Modutrol IV TRADELINE Replacement Specifications						Functional Replacement	TRADELINe Comments
	Model Number	Required Transformer	Required Aux. Switch	Required Accessories	Timing (sec)	Aux Sw		
M9484E1066	None				30/60	1	M9484E1033	
M9484E1074	None				30/60	1	M9484E1033	
M9484E1082	None				30/60	1	M9484E1017	With tapped shaft
M9484E1090	None				30/60	1	M9484E1017	
M9484E1116	None				15/30	1	M9484E1009	
M9484E4003	N/A				30/60	1	N/A	Canada, tapped shaft, 220741A
M9484F1007	N/A				30/60	2	N/A	
M9484F1015	None				30/60	2	M9484F1007	
M9484F1023	N/A				15/30	2	N/A	With tapped shaft
M9484F1031	N/A				30/60	2	N/A	
M9484F1049	N/A				30/60	2	N/A	
M9484F1056	None				15/30	2	M9484F1023	With tapped shaft
M9484F1064	None				30/60	2	M9484F1031	
M9484F1072	None				30/60	2	M9484F1007	
M9484F4001	N/A				30/60	2	N/A	Canada, tapped shaft, 220741A
M9484F4019	N/A				15/30	2	N/A	
M9491D1003	None				60/120		M9494D1000	
M9494D1000	N/A				60/120		N/A	

## 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	Description	Mod IV Equivalent	Comments
27518	Ball Joint	N/A	
101662A	Bracket, external damper mount	101662A	
104643A	Crank Arm Adapter	104643A	Requires 220738A for Mod III to Mod IV
112894FB	Remote Manual Potentiometer, 270 ohm	112894FA	
112894FD	Remote Manual Potentiometer, 135 ohm	112894FD	
112894FE	Remote Manual Potentiometer, 270 ohm, with wallplate	112894FE	
112894GB	Remote Manual Potentiometer, 72 ohm	112894FE	
198162AA	Internal Transformer, 120/208/240 Vac, 50/60 Hz	50017460-001	
198162EA	Internal Transformer, 120 Vac, 50/60 Hz	50017460-003	
198162GA	Internal Transformer, 220 Vac, 50/60 Hz	50017460-001	
198162JA	Internal Transformer, 24 Vac, 50/60 Hz, Isolation	50017460-001	
220736A	Auxiliary Switch Kit, 1 Switch	220736A	
220736B	Auxiliary Switch Kit, 2 Switches	220736B	
203977A	Economizer Adapter Kit	203977A	
220738A	Adapter Bracket	220738A	

**Table 5. Modutrol Motor Accessory Cross Reference.**

Accessory Part Number	Description	Mod IV Equivalent	Comments
220741A	Screw Terminal Adapter	220741A2-XX	order by Mod Motor series number
221455A	Infinitely Adjustable Crank Arm	221455A	
221508A	Resistor Board	221508A2	
34343A	Connecting Rod	Q5001D1000	
4074BYK	Resistor Kit - Series 90	221508A2	
4074EAU	Resistor Kit - W973	221508A2	
4074EDC	Resistor Kit - 4 to 20 mA	221508A2	
4074EED	Resistor Kit - 4 to 20 mA	221508A2	
4074ELR	Heavy Duty Crank Arm	4074ELR	Requires 220738A for Mod IV
4074ELY	Infinitely Adjustable Crank Arm	221455A	
4074ERU	Weatherproof Kit	4074ERU	
4074EQE	Heavy Duty Crank Arm	4074EQE	
None	Economizer Weatherproof Kit	None	
7616BR	Adjustable Crank Arm	7617ADW	Requires 220738A for Mod IV
7617ADW	Adjustable Crank Arm	7617ADW	
7617DM	Coupling	7617DM	
None	Bracket, DR/ZR valve to Mod Motor	None	
ES-650-117	Explosion Proof Housing EGS Enclosures	ES-650-117	Requires 220738A for Mod IV
ES-650-118	Explosion Proof Housing EGS Enclosures	ES-650-118	
None	Valve Linkage	None	
Q100A1015	Valve Linkage	Q100A1015	
Q100A1023	Valve Linkage	Q100A1023	
Q181A1007	Auxiliary Potentiometer (1 Potentiometer)	Q181A1007	
Q181A1015	Auxiliary Potentiometer (2 Potentiometer)	Q181A1015	
Q181A1064	Auxiliary Potentiometer (3 Potentiometer)	Q181A1064	
Q181A1072	Auxiliary Potentiometer (4 Potentiometer)	Q181A1072	
Q209E1002	Cover Mounted Minimum Position Pot 135 ohm	Q209E1002	
Q209E1010	Cover Mounted Minimum Position Pot 270 ohm	Q209E1010	
Q209F1001	Internal Minimum Position Pot 135 ohm	Q209F1001	
Q209F1019	Internal Minimum Position Pot 270 ohm	Q209F1019	
Q5001A1006	V5011, V5013 Valves	Q5001A1006	
Q5001A1014	V5011, V5013 Valves	Q5001A1014	

**Table 5. Modutrol Motor Accessory Cross Reference.**

Accessory Part Number	Description	Mod IV Equivalent	Comments
None	V5011, V5013 Valves	None	
None	V5011, V5013 Valves	None	
None	V5011, V5013 Valves	non	
Q5001D1000	V5011, V5013 Valves	Q5001D1000	
Q5001D1018	V5011, V5013 Valves	Q5001D1018	
Q5001D1026	V5011, V5013 Valves	Q5001D1026	
None	Series 90 Motors	None	
None	Series 90 Motors	None	
None	Series 90 Motors	None	
Q7130A1006	Series 90 Motors	Q7130A1006	
Q7230A1005	Series 90 Motors	Q7230A1005	
Q7330A1004	Series 90 Motors	Q7330A1004	
Q7630A1001	Series 90 Motors	Q7630A1001	
S443A1007	Remote mount Series 90 motor manual control	S443A1007	
S963B1128	Series 90 Motors	S963B1128	
S963B1136	Series 90 Motors	S963B1136	
W859	Series 90 Mod III	W859	Requires 220738A for Mod IV
W859	Series 90 Mod IV	W859	





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