


Cable Reel 2000, 2300, 2400, 2500, 2600, 2700, 2800 Series MD10, MD20, MD30, MD40, MD50 Mill-Duty Service Manual

Aero-Motive Company

 A Woodhead Industries, Inc. Subsidiary

Important Safety Instructions

Please read this manual carefully and follow its instructions. Improper use or failure to follow these instructions could result in serious injury, death or property damage. Operators should be instructed in the safe and proper use and maintenance of this product. Keep this manual for future reference.

The following safety precautions call attention to potentially dangerous conditions.



DANGER: Immediate hazards which **WILL** result in severe personal injury or death.



WARNING: Hazards or unsafe practices which **COULD** result in severe personal injury or death.



CAUTION: Hazards or unsafe practices which **MAY** result in *minor* personal injury or product or property damage.

INSTALLATION



WARNING: Lock out all electrical power and remove all spring tension from the reel before opening any enclosure or performing any service to this reel. Make sure all circuits carry appropriate fuse protection. Hazards or unsafe practices **COULD** result in severe personal injury or death.



WARNING: Failure to read, understand, and follow these instructions creates hazards that **COULD** result in personal injury or death.



CAUTION: Instruct operators in the safe, proper use, and maintenance of the reel. Keep this manual for future reference. Hazards or unsafe practices **MAY** result in *minor* personal injury or product or property damage.

MOUNTING

The fixed base of the reel allows mounting in several different positions including base up, base down, or wall mounted. Here are general mounting requirements:

- Main-shaft must be horizontal.
- Centerline of the spool assembly must be on line with the cable run.

SECONDARY SUPPORT CHAIN



DANGER: A secondary safety cable or chain is to be attached to all reels mounted overhead to prevent reel from falling. Immediate hazards **WILL** result in severe personal injury or death.

All reels mounted over head should have a secondary support chain to protect personnel in case of structure or mounting component failure. Attach one end of secondary support chain or cable to secondary support point on reel. Attach other end of secondary support chain or cable to a support component other than that which supports the reel. The chain or cable should be as short as possible allowing reel to drop no more than 6 to 12 inches if the primary connection is released. A secondary support is offered as an accessory item.

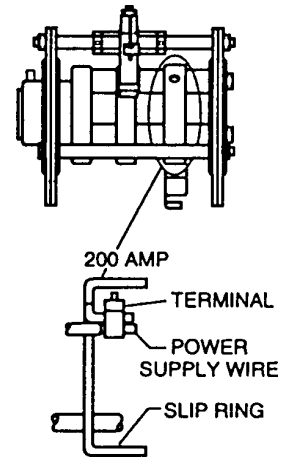
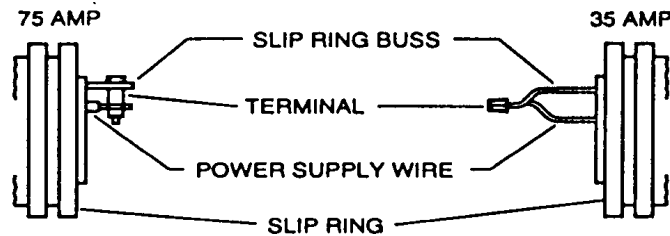
PIVOT/SWIVEL BASE

If optional pivot /swivel base is used, reel will be self-aligning to direction of cable run. A four roller cable guide, the 2FMYE or 3FMYE must be used with pivot or swivel mounts.

WIRING SUPPLY CONNECTION

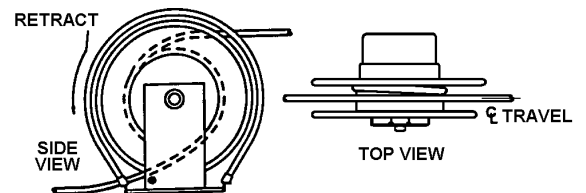
NOTE: See “Service, Working Cable Replacement/Installation” if cable needs to be installed.

If a junction box is on stand, input power connection is made to lead wires in junction box. If no junction box, input power is made through 1" x 11 1/2" N.P.S.C. main shaft pipe thread directly to slip ring. Remove collector ring cover to make connections. Restrain cable or conduit entering junction box or plain shaft with proper fittings to meet code requirements. If 200 amp type slip ring, remove slip ring from shaft and attach lead wires to rings. See adjacent drawings for type connections based on slip ring amperage. Check continuity on each conductor.

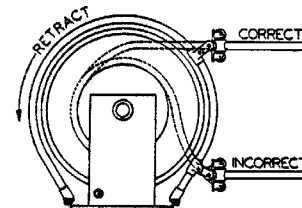


GUIDE RAIL, ROLLER GUIDE, AND SHEAVES

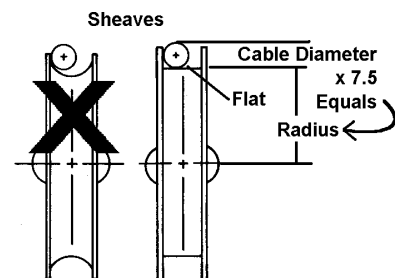
Guide Rails – come standard with all reels. If recovery application with middle cable attachment and two-way payout, guide rails allow full freedom from side to side. There must not be a tendency for cable to pull to either side. Realign reel with payout and guide rails with reel flanges if needed.



Roller Guide - used when cable is pulled out in a line tangent to drum surface. Adjust guide to minimize cable deflection to cable travel. This type of guide is needed for manual pull out applications using ratchet lock option. If not manual pull out, reel is often best operated without a guide. Standard guide rails assure cable will not over spool.






Sheaves are used to bend cable around corners. Typical minimum bend radius of the sheave should be about 7.5 x cable diameter. Requirements can vary depending on cable manufacturer specifications. Sheaves should have flat surfaces for cable to ride on. The movement of cable through a sheave should be in the same plane as the cable spool. Changing planes can greatly reduce cable life.



CABLE WINDING

There are many types of cable that may be installed on your cable reel depending on application. Select the cable most appropriate for your application requirements. Many cables come from the factory with a wax-like film that can encourage uneven wrapping. At initial set up it is common to use a dry lubricant (talc powder), or silicone based grease to encourage more even winding. Also critical to proper winding is the proper setting of “Setup Turns”. See appropriate section. In some cases sheaves and unanticipated application features can require more tension than offered with standard reels. Contact factory for application assistance.

OPERATION

- | | |
|---|---|
|  | CAUTION: Failure to test for adequate spring revolutions can cause spring damage. Hazards or unsafe practices MAY result in <i>minor</i> personal injury or product or property damage. |
|  | CAUTION: Prior to terminating cable, follow steps below and make sure that there are no twists or kinks in cable. |
|  | CAUTION: Except on reels furnished with fast-tension plate, NEVER add or remove set-up turns when cable is terminated. NEVER apply so many turns that the springs are worked to the end of their travel. Leave several turns between the end of the spring and the position of the drum when cable is fully extended. Hazards or unsafe practices MAY result in <i>minor</i> personal injury or product or property damage. |

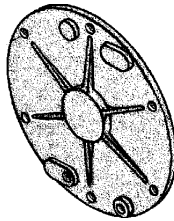
SETUP TURNS

Reels come with 3 to 10 springs per motor. Each motor must be pre-tensioned with a minimum of 2 setup turns per spring before use. The end plate, Standard or Fast-Tension type, affects the method used for applying the set-up turns.

Definitions

- **Active Turns** - Number of spool turns to unwrap active cable (pull off cable and count turns.)
- **Setup Turns** – Number of turns applied to spool or fast-tension plate when cable is all on spool
- **Total Turns** – Number of total turns possible at spool.

Standard End Plate




The standard spring motor end plate has setup turns applied by rotating spool. This requires disconnecting cable from free end. If reel has label (as shown at right) with suggested set-up turns, use this number. Use chart below if label is not as shown. If more tension is needed, see section “Adding More Setup Turns”.

IMPORTANT

	MAXIMUM SPOOL TURNS AVAILABLE, DO NOT EXCEED
	SET-UP SPOOL TURNS, WITH ALL CABLE ON SPOOL

SPOOL MAY BE REVERSE-WOUND TO INSTALL CABLE

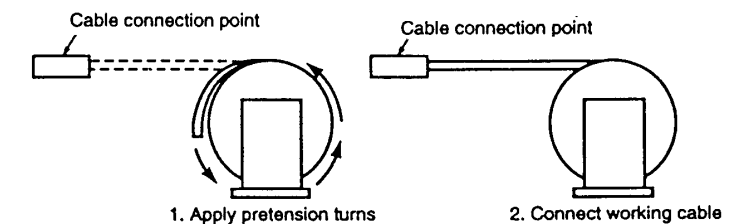
For maximum spring life use required set-up turns and **DO NOT** exceed maximum spool turns.



SPOOL

To apply turns,

- Disconnect cable free end
- Pull out a full wrap of cable from drum.
- Place bar through holes on edge of flanges to prevent drum from turning as cable is placed back on reel.
- Repeat until required setup turns are applied.
- The number of pretension turns required can vary considerably depending on application and on desired cable tension force.



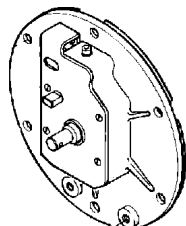
Figuring Setup Turns Standard End Plate

- **A** = 5th & 6th digits of model number. (ex. 2054-**62**-904)
- **B** = 4th digit of model number. (ex. 205**4**-62-904)
- Example: Setup at spool = 3 , Total Turns =17

	A =-50-		A= -52-		A=-53-		A=-55-		A=-56-		A=-57-		A=-60-	
	Setup/Total		Setup/Total		Setup/Total		Setup/Total		Setup/Total		Setup/Total		Setup/Total	
B=3	6	30	5	25	5	23	4	20	4	19	4	4	3	15
B=4	8	40	7	33	6	31	5	27	5	25	5	5	4	20
B=5	10	50	8	42	8	38	7	33	6	31	6	6	5	25
B=6	12	60	10	50	9	46	8	40	8	38	7	7	6	30
B=7	14	70	12	58	11	54	9	47	9	44	8	8	7	35
B=8	16	80	13	67	12	62	11	53	10	50	9	9	8	40
B=9	18	90	15	75	14	69	12	60	11	56	11	11	9	45
B=0	20	100	17	83	15	77	13	67	13	63	12	12	10	50

	A=-62or63-		A=-65-		A=-66-		A=-70-		A=-76-		A=-80-		A=-85-	
	Setup/Total		Setup/Total		Setup/Total		Setup/Total		Setup/Total		Setup/Total		Setup/Total	
B=3	3	13	2	14	2	12	2	10	2	8	2	8	1	7
B=4	3	17	3	18	3	15	3	13	2	11	2	10	2	9
B=5	4	22	4	23	4	19	3	17	3	14	3	13	2	11
B=6	5	26	5	27	5	23	4	20	3	17	3	15	3	13
B=7	6	30	6	32	5	27	5	23	4	19	4	18	3	16
B=8	7	35	6	36	6	31	5	27	4	22	4	20	4	18
B=9	8	39	7	41	7	35	6	30	5	25	5	23	4	20
B=0	9	43	8	45	8	38	7	33	6	28	5	25	4	22

Fast Tension End Plate



The fast-tension end plate directly applies setup turns without disconnecting cable and rotating spool. If reel has label (as shown at right) with suggested set-up turns, use this number. Use chart below if label is not as shown. If more tension is needed, see section "Adding More Setup Turns".

IMPORTANT

MAXIMUM **SPOOL** TURNS AVAILABLE, **DO NOT EXCEED**

SET-UP **MOTOR** TURNS, WITH ALL CABLE ON SPOOL

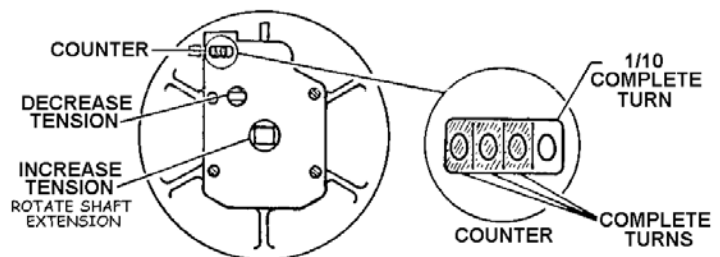
SPOOL MAY BE REVERSE-WOUND TO INSTALL CABLE

For maximum spring life use required set-up turns and **DO NOT** exceed maximum spool turns.

Setup turns are added by turning "Increase Tension" shaft clockwise. "Decrease Tension" shaft rocks to release 1/10 of a turn per pivot and must be done in a slow and controlled manner.

Counter shows correct turns only if set to "0" when motor is untensioned, and only if tension increasing turns are only added.

Decreasing tension will increase counter number and read incorrect setup total.



Figuring Setup Turns Fast-Tension End Plate

- **B** = 4th digit of model number is number of springs in each motor. (ex. MD1**6**-62-904) (8th digit of spring motor part number is also number of springs. 4391201**6**05)
- Multiply **B** by 2 for minimum set up turns.
Example: 6 x 2 = 12 set up turns applied at motor fast tension plate

B= 3	B= 4	B= 5	B= 6	B= 7	B= 8	B= 9	B= 0
6 set up	8	10	12	14	16	18	20

Adding More Setup Turns

In some instances more setup turns are needed to improve reel performance. Calculate the following and use in equation and previous charts


1. Maximum Setup at Spool = Total Turns - ($\frac{1}{2}$ x Setup) - Active Turns
2. If Fast-Tension end plate then calculate turns to apply at motor.
Setup turns at motor = Maximum Setup at Spool X Ratio

5&6 th = 50	5&6 th =52	53	55	56	57	60	62	63	65	66	70	76	80	85
Ratio= 1	Ratio= 1.2	1.3	1.5	1.6	1.7	2.0	2.2	2.3	2.5	2.6	3	3.6	4	4.5

Example: MD46-70-404 Active Turns – 15 to wind cable
Setup Turns = 5 , Total Turns = 23 (from Standard end plate charts)
Max Setup = 23 – (5 x .5)-15 = 23 – 17.5 = 5.5 turns at spool

But this is Fast-Tension type so do step 2. 5.5 x 3 =16.5 turns at spring motor.

SERVICE

	WARNING: Always disconnect electrical power before dismantling any part of the reel. Fuse size must not be greater than maximum amperage capacity of cable. Remove all spring tension before attempting any service. Hazards or unsafe practices COULD result in severe personal injury or death.
--	--

INSTALL/REPLACE WORKING CABLE

The procedures below apply to both new installations and for replacement of working cable.

NOTE: For standard reels add 10 ft. extra to active cable length (3 ft. for dead wrap and 7 ft. for slip ring connections). Reels with junction box at slip ring enclosure only need 5ft for cable connection/dead wrap since it is not necessary to wire to brush holder. Add needed length to active cable for connection at fixed end.

On standard reels without junction box remove slip ring cover, cable clamp from spool assembly and cable connector. Determine length to strip outer-jacket of cable by inserting it through gooseneck fitting until reaching most distant brush terminal. Mark outer-jacket at location inside enclosure. Remove cable, and strip outer-jacket six inches above mark to ensure adequate conductor length to connect to brush terminals. Pull stripped end of cable through slot in spool assembly flange adjacent to cable clamp. Insert cable through cable connector until outer-jacket becomes visible in fitting. Tighten watertight cable connector. Each lead may now be connected to the proper collector ring in junction box. Place strain relief clamp over cable and tighten securely. Reverse wind cable onto reel keeping track of the number of turns required to spool cable for use below. Make sure cable is free from all twists and kinks causing erratic wrapping pattern, which leads to shorter cable life.

If mill-duty reel remove six screws, junction box cover, and cable clamp. Strip outer jacket of cable back approximately five inches; More may be required depending on the number of conductors. Stripped end of cable should be passed from inside of the drum out through slot in flange that is adjacent to cable clamp as shown in drawing. Then, insert stripped end through watertight connector until outside jacket extends about $\frac{1}{2}$ " into the enclosure. Tighten watertight connector. Each individual lead may now be connected to proper collector ring in junction box. Place strain relief clamp over cable and tighten securely. Reverse wind cable onto reel keeping track of number of turns required to spool cable for use with set up turns. Make sure cable is free from all twists and kinks causing erratic wrapping pattern, which leads to shorter cable life.

When reverse winding reel, you will hear a clicking sound as the springs disengage from drive hubs. This is a protective device to prevent damage to springs while reverse winding. All springs will re-engage when cable is pulled out. Anchor free end of working cable only after setup turns are applied.

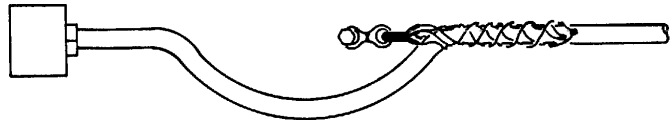
CABLE ANCHORING

CAUTION: If you reach the end of available spring turns before all cable is removed from drum, stop, disconnect cable and remove set-up turns. Remove any twists or kinks from the cable, before terminating free end. Hazards or unsafe practices **MAY** result in *minor* personal injury or product or property damage.

WARNING: A suitable cable grip must be used to assure safe anchoring of cable. Hazards or unsafe practices **COULD** result in *severe* personal injury or death.

Pull all working cable (against tension of reel) to connect point with adequate slack to make connections. Place a bar through holes near edge of flanges to relieve tension on cable but hold pretension turns on reel.

When anchoring, a cable grip must be incorporated with slack in cable prior to entering power connection.



COLLECTOR RING REPLACEMENT

WARNING: Disconnect and lock out all power to reel before servicing collector ring assembly. Hazards or unsafe practices **COULD** result in *severe* personal injury or death.

CAUTION: Check continuity and replace all covers before turning on electrical power. Hazards or unsafe practices **MAY** result in *minor* personal injury or product or property damage.

Remove collector ring cover. Disconnect working cable lead wires from terminals of brush holder. Disconnect main shaft lead wires and remove by loosening set screws and sliding collector ring off main shaft. To reassemble, reverse above procedure, Make sure each brush is properly centered on its ring with full contact. Collector ring assembly should be snug against entrance ring assembly.

SPRING MOTOR REPLACEMENT

WARNING: Before performing any service, always disconnect and lock out all electrical power and always be sure to remove all spring tension before servicing spring motor. Hazards or unsafe practices **COULD** result in *severe* personal injury or death.

WARNING: Springs are dangerous. Do **NOT** attempt to remove spring from its container. Use service manual SM0088-02 for spring motor repair instructions. Hazards or unsafe practices **COULD** result in *severe* personal injury or death.

Be sure spring motor is adequately supported; Lifting hooks should be provided. Remove the four bolts and rear motor support bracket when applicable. Slide spring motor back to disengage from drive shaft and read the enclosed spring motor instructions carefully before attempting spring replacement. To replace spring motor, reverse procedure. After spring motor is reinstalled, repeat the spring pre-tensioning procedure.

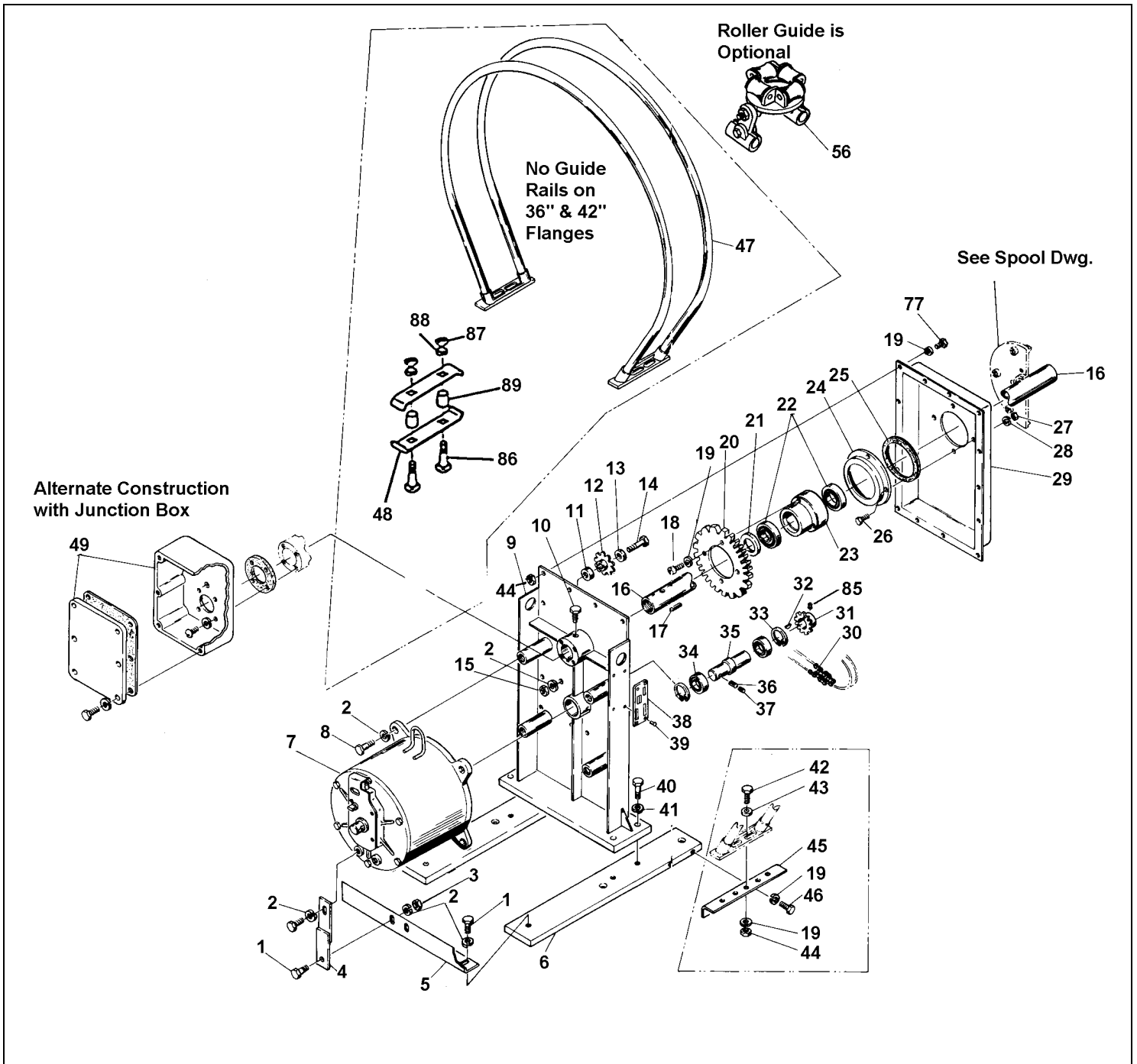
NOTE: It is recommended to replace all springs since unbroken springs of same age will likely need replacement. Failure to do this will result in much more frequent maintenance.

LUBRICATION

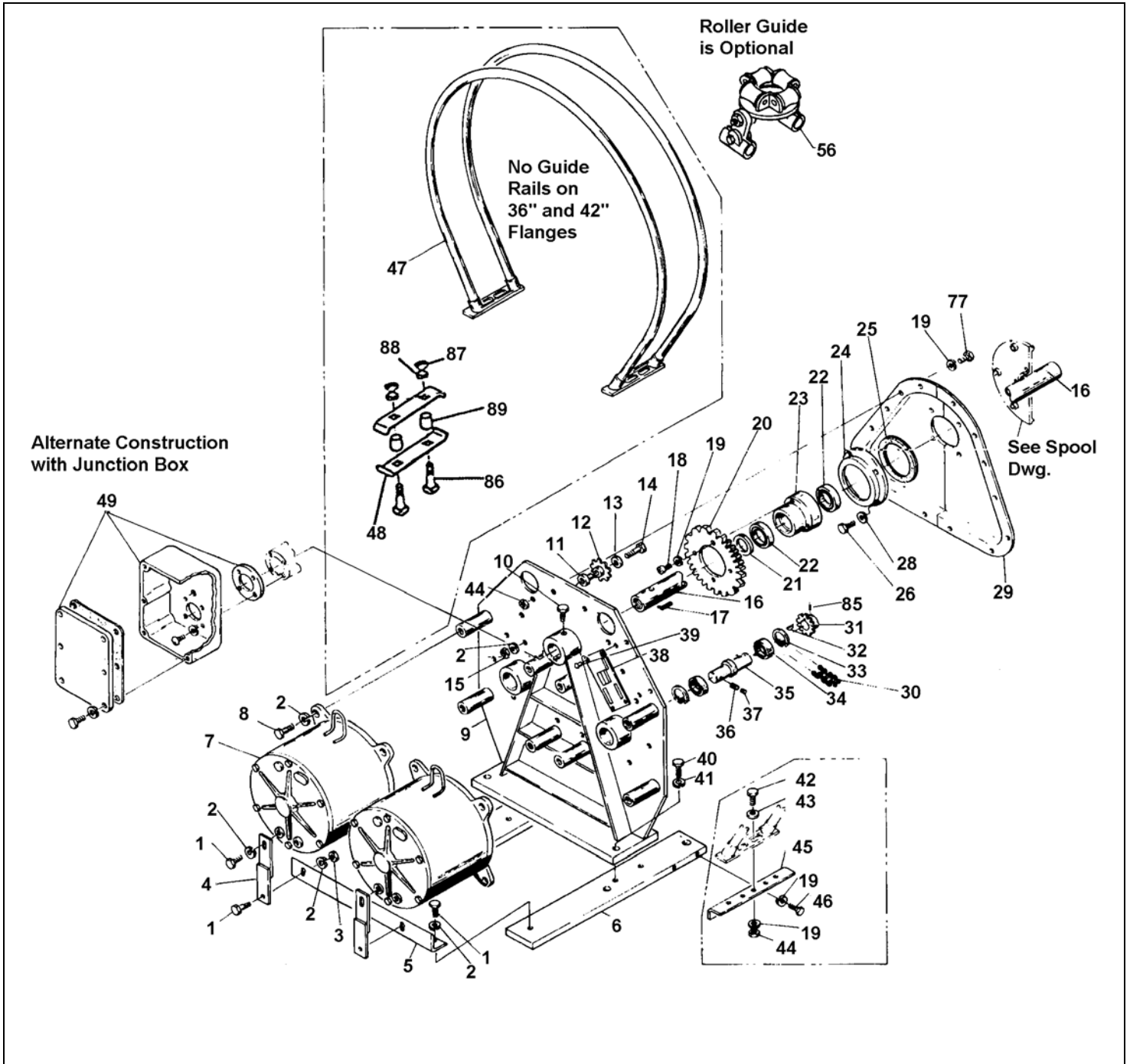
Springs and bearings have been sufficiently lubricated at factory to last for normal life of motor. If grease has been removed during maintenance it should be replaced with good quality high-low, temperature grease (Texaco AFB 2 or equal). Bearings should be packed, and springs should have enough grease in the cup to thoroughly coat the entire spring as it works in during use.

REPLACEMENT PARTS

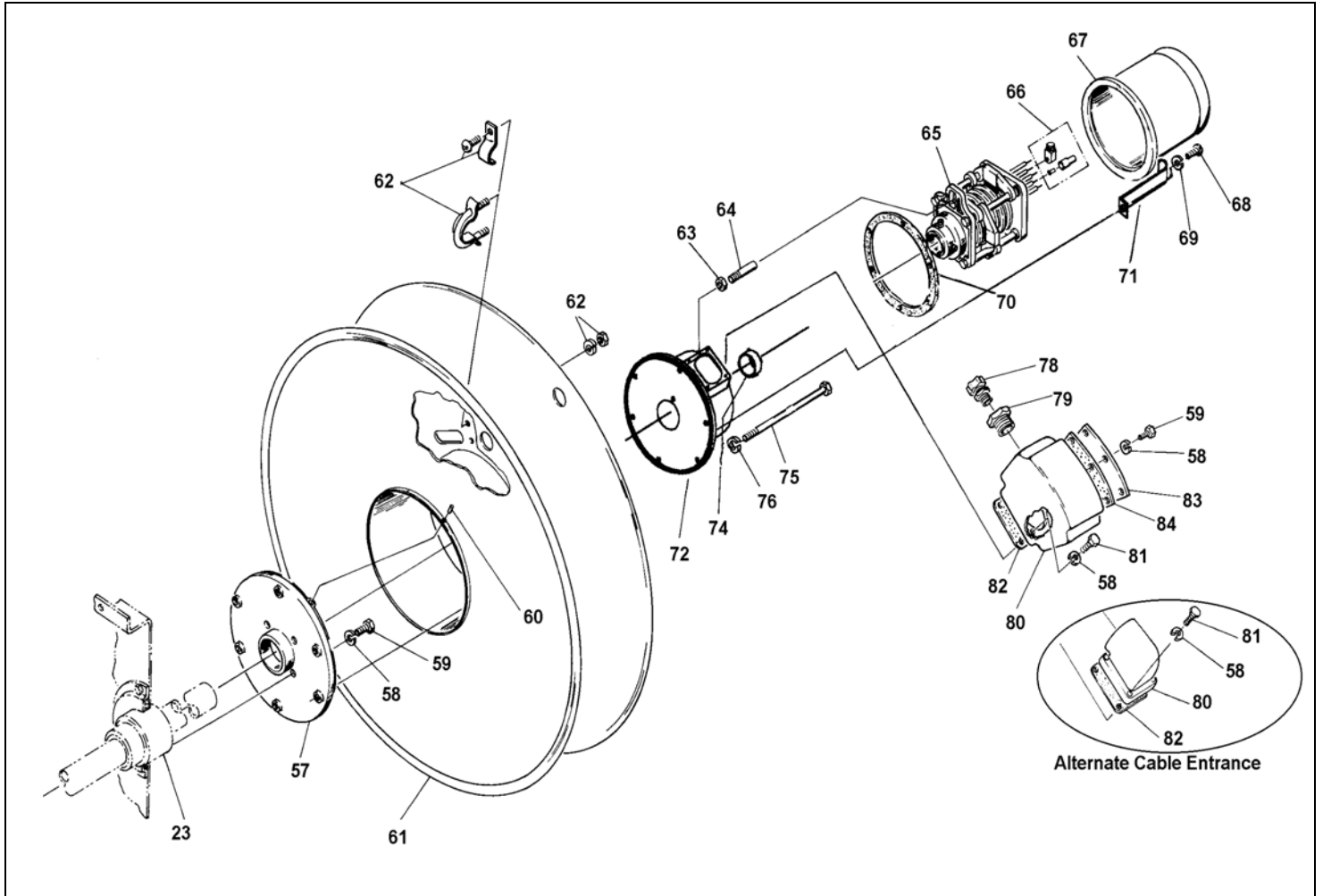
Single-Motor-Base for models (digits 1-4) 205x, 234x, 237x, 257x, 277x, MD1x, MD2x, and MD3x.



Twin-Motor-Base for models (digits 1-4) 244x, 247x, 267x, 287x, MD4x, and MD5x.



Spool & Slip Ring n all Reels.



Example Model Number

1st 3rd 5th 7th 9th
 | | | | |
MODEL NO : 2 0 5 5 - 7 0 - 4 0 4 - MD
 | | | | |
 2nd 4th 6th 8th Suffix

Portions of the model number are referred to in parts list.

Reference Number *	Part Number	Qty.	Description
1	00032P0105	AR	Screw; Hex Hd. (3/8-16 x 7/8)
2	00101P0021	8	Washer; Lock 3/8"
3	C22020312	AR	Nut hex 3/8-16 Digits 1-4 =23xx or 24xx.
4	5987500000	1	Support Digits 1-4 23xx, 24xx, MD2x, MD3x, MD4x, MD5x
5	5987400002	1	Support, Digits 1-4 MD2x, MD3x, 23xx.
	5987400003		Support, 24xx, MD4x, MD5x
	5987400001		Support, 205x, MD1x, 257x, 277x
	5987400004		Support, 267x,287x
6	4083200004	2	Foot; Mounting Digits 1-4 205x, MD1x, MD3x, MD5x, 237x, 247x., x=3
	4083200017		Foot; Mounting x=4
	4083200022		Foot; Mounting x=5
	4083200023		Foot; Mounting x=6
	4083200030		Foot; Mounting x=7
	4083200031		Foot; Mounting x=8
	4083200036		Foot; Mounting x=9
4083200037	Foot; Mounting x=0		
6 (cont.)	4083200002	2	Foot, Mounting 234x, 244x, MD2x, MD4x, x=3
	4083200013		Foot, Mounting x=4
	4083200014		Foot, Mounting x=5
	4083200019		Foot, Mounting x=6
	4083200020		Foot, Mounting x=7
	4083200026		Foot, Mounting x=8
	4083200027		Foot, Mounting x=9
4083200033	Foot, Mounting x=0		
6 (cont.)	4395300002	2	Foot, Mounting 257x,267x, 277x, 287x, x=5
	4395300003		Foot, Mounting x=6
	4395300004		Foot, Mounting x=7
	4395300005		Foot, Mounting x=8
	4395300006		Foot, Mounting x=9
4395300007	Foot, Mounting x=0		
7	4432101305	1	Motor; Spring for model Digits 1 & 4, 2xx3-xx-xxx-
	4432101405		Motor; Spring for model 2xx4-xx-xxx-
	4432101505		Motor; Spring for model 2xx5-xx-xxx-
	4432101605		Motor; Spring for model 2xx6-xx-xxx-
	4432101705		Motor; Spring for model 2xx7-xx-xxx-
	4432101805		Motor; Spring for model 2xx8-xx-xxx-
	4432101905		Motor; Spring for model 2xx9-xx-xxx-
	4432101005		Motor; Spring for model 2xx0-xx-xxx-
7(cont.)	4391201305	1	Motor; Spring for model 2xx3-xx-xxx-MD & MDx3
	4391201405		Motor; Spring for model 2xx4-xx-xxx-MD & MDx4
	4391201505		Motor; Spring for model 2xx5-xx-xxx-MD & MDx5
	4391201605		Motor; Spring for model 2xx6-xx-xxx-MD & MDx6
	4391201705		Motor; Spring for model 2xx7-xx-xxx-MD & MDx7
	4391201805		Motor; Spring for model 2xx8-xx-xxx-MD & MDx8
	4391201905		Motor; Spring for model 2xx9-xx-xxx-MD & MDx9
	4391201005		Motor; Spring for model 2xx0-xx-xxx-MD & MDx0
8	00032P0103	AR	Screw hex head cap 3/8-16x1
9	5982700000	1	Weldment; Stand Digits 1-4 = 205x, MD1x
	5987800000		Weldment; Stand 234x, 237x,
	6116900000		Weldment; Stand 244x, 247x,
	5982700000		Weldment; Stand 257x, 277x,
	6117000000		Weldment; Stand 267x, 287x,
10	4068000000	1	Screw; Hex Hd.
11	4082500000	1	Spacer; Sprocket
12	00380P0003	1	Gear; Idler
13	C01010222	1	Washer; 3/8x.065

14	00032P0112	1	Screw; Hex Hd. Cap (3/8-16x2)
15	00151P0110	1	Nut; Hex (3/8-16)
16	40149000xx	1	Shaft; Main (see chart #1 below for -xx).
17	4077300002	1	Key; 1/4 sq. X 7/8 l
18	00029P0108	4	Screw; 1/4-20x5/8, Soc HD
19	00101P0030	AR	Washer; Lock 1/4x.062
20	40822000xx	1	Sprocket, driven – See chart #2 , xx= number of teeth
21	4011900000	1	Spacer
22	4000500000	2	Bearing
23	4080600000	1	Hub; Sprocket
24	6116700000	1	Retainer Cover
25	4081600000	2	Felt washer
26	00030P0211 00002P0404	4	Screw; Hex Hd. Cap (#10-24 x 3/8) 205x, 23xx, MD1x-MD3x, 257x, 277x Screw; 10-24 X 1/4 RDHMS, 24xx, MD4x-MD5x, 267x-287x
27	00151P0020	4	Nut; Hex (1/4-20) Digits 1-4 = 205x, 23xx, MD1x-MD3x, 257x, 277x
28	00101P0030 00101P0015	4	Washer; Lock (1/4) Digits 1-4 = 205x, 23xx, MD1x-MD3x, 257x, 277x Washer, Lock (#10) 24xx, MD4x-MD5x, 267x-287x
29	6111500000 6123400000	1	Housing; Sprocket (Gear) Digits 1-4 =205x, 23xx, MD1x-MD3x Housing; Sprocket (Gear) 24xx, MD4x-MD5x, 267x-287x
30	01158P0002	AR	Chain #40 –will need no more than 4 ft.
31	43723000xx	AR	Sprocket, driving – See chart #2, xx = number of teeth
32	00751P0011	AR	Key, Woodruff (1/4 x 3/4)
33	00581P0075	AR	Ring; Retainer
34	00376P0120	AR	Bearing
35	4370300000	AR	Shaft; Sprocket
36	00230P0151	AR	Pin; .375 dia x 175 long, Drive
37	00230P0133	AR	Pin; .218 dia x 1.75, Drive
38	3743600000	1	Name Plate
39	00209P0023	4	Rivet, Dome Hd. (1/8")
40	00034P0013	4	Screw, Hex Hd. Cap (1/2-13 x 1-1/4)
41	00101P0016	4	Washer; 1/2 Lock
42	00030P0117	4	Screw; Hex Hd. Cap 1/4x20 Digits 1-4 = 205x, 23xx, 24xx, MD1x-MD5x
43	00126P0050	4	Washer; Flat 1/4" x 20 205x, 23xx, 24xx, MD1x-MD5x
44	00151P0020	AR	Nut 1/4" x 20 x 5/8 205x, 23xx, 24xx, MD1x-MD5x
45	4026600000	2	Bracket; Mounting 205x, 23xx, 24xx, MD1x-MD5x
46	00030P0111	AR	Screw; 1/4-20x5/8, Hex Hd. Cap 205x, 23xx, 24xx, MD1x-MD5x
47	2R 3R 4928500003	1	Assembly; Guide Rail Digits 1-4 =205x, MD1x, 5 " wide spool Assembly; Guide Rail 234x,244x, MD2x, MD4, 4" wide spool Assembly; Guide Rail 237x, 247x, MD3x, MD4x , 7" wide spool
48	6079300000 6079400000	1 1	Tie Bar, Digits 1-4=205x, MD1x, 234, 244x, MD2x, MD4x 4"- 5" wide spool Tie Bar, Digits 1-4 237x, 247x, MD3x, MD5x, 7" wide spool
49	2JA 2JB 2JC 2JD	A/R	Junction Box 1.0", NPT Junction Box 1.25", NPT Junction Box 1.5", NPT Junction Box 2.0", NPT
56	2FMYE 2FMYE7 3FMYE 3FMYE7	A/R	Roller Guides for Digits 1-4 = 205x, 234x, 244x, MD1x, MD2x, MD4x Roller Guide 237x, 247x, MD3x, MD5x Roller Guides for 205x, 234x, 244x, MD1x, MD2x, MD4x Roller Guide 237x, 247x, MD3x, MD5x
57	4080500001	1	End plate
58	00101P0031	AR	Washer; Lock 1/4x.062
59	00030P0110	AR	Screw; Hex Hd. (1/4-20 x 3/4)
60	00230P0105	2	Pin .094 dia x .375 long
61	4399000001 4399200019 4399200022 4399300001 4399300002	1	Spool - 5" width, 24" dia – Digits 1-4 = 205x , MD1x Spool - 4" width, 32" dia - 234x, 244x, MD2x, MD4x Spool - 7" width, 32" dia - 237x,247x, MD3x, MD5x Spool - 7" width, 36" dia - 257x, 267x Spool - 7" width, 42" dia - 277x, 287x

	6150300001		Assembly; Clamp (.375-.499 OD)
	6150300002		Assembly; Clamp (.500-.624 OD)
	6150300003		Assembly; Clamp (.625-.749 OD)
62	4920100008	1	Assembly; Clamp (.750-.874 OD)
	4920100002		Assembly; Clamp (.875-1.124 OD)
	4920100004		Assembly; Clamp (1.125-1.375 OD)
	4920100005		Assembly; Clamp (1.41125-1.40 OD)
63	00151P0035	1	Nut, heavy jam hex 3/8-16
64	4391100000	1	Stud-Drive
65	SRXXX AGXXX	1	Assembly; Collector Ring (Digits 7,8,9 = XXX). If Silver Slip Ring, 10 th digit = S, then use this model.
66	00903P0001 00904P0001 4027900002	A/R	Cap, 7 th Digit = (3) Insulator 7 th Digit = (3) Connector; Wire 7 th Digit = (4)
67	H82630032 H82630033 H82630034 H82630035 H82630036 H82630037 H82630039 H82630040	1	Cover; Collector Ring 3.25" length (For digits 7-9 = 303, 304) Cover; Collector Ring 5.25" length (= 308, 402, 403, 404) Cover; Collector Ring 7.25" length (= 312, 405, 406, 902, 903) Cover; Collector Ring 9.25" length (= 314, 316, 407, 408, 409, 904, 905) Cover; Collector Ring 11.25" length (= 318, 320, 410, 411) Cover; Collector Ring 13.25" length (= 324, 906) Cover; Collector Ring 15.25" length (= 328, 330) Cover; Collector Ring 17.25" length (= 336)
68	00030P0115	AR	Screw, Slot Hd. (#10-24 x 5/8)
69	00101P0030	AR	Washer; (#10) 1/4x.062 Spring Lock
70	M14210027	1	Gasket
71	M53800005	3	Clamp; Cover
72	M64560013	1	Entrance Ring
74	4000500000	1	Bearing
75	4014300035 4014300034 4014300038	6	Bolt tie, 4" spool Digits 1-4 = 234x,244x, MD2x, MD4x Bolt tie, 5" spool, 2050, MD1x Bolt tie, 7" spool, 237x, 247x, 257x, 267x, 277x, 287x
76	00101P0030	6	Washer; Lock 1/4x.062
77	00030P0111 00029P0105	AR	Bolt, Digits 1-4 = 205x, 23xx, MD1x,MD2x, MD3x Bolt, carriage 5/16-18x1-3/4 24xx, MD4x, MD5x, 26xx, 28xx
78	01151P0019 01151P0020 01151P0014 01151P0015 01151P0016 01151P0024 01151P0025	A/R	Connector; Cable (.375-.499 OD) Connector; Cable (.500-.624 OD) Connector; Cable (.625-.750 OD) Connector; Cable (.751-.880 OD) Connector; Cable (.930-1.065 OD) Connector; Cable (.1.066-1.187 OD) Connector; Cable (.1.188-1.625 OD)
79	00669P0045	A/R	Bushing 2-1-1/4
80	5491000001 5491000002 5490200002 5490200003 5490200004 5490200005	1	Alternate Cable Entrance (.375-.929 OD) Alternate Cable Entrance (.930-1.625 OD) Junction box - 1" NPT standard R Junction box - 2" NPT standard R Junction box - 1" NPT Rev R Junction box - 2" NPT Rev R
81	00030P0111	4	Screw; Hex Hd. (1/4-20 x 5/8)
82	5491200000	1	Gasket
83	5491100001	1	Cover
84	5491300000	1	Gasket
85	00053P0504 00053P0231	AR	Set screw 3/8-16 x 1-1/2 – Models 2xxx-50, 52, 53, 55 Set screw #10 – 24x1/4 – Models 2xxx-56-85
86	00031P0040	AR	Bolt, Digits 1-4 = 205x, 23xx, 24xx, MDxx
87	00151P0075	AR	Nut hex 5/16-18, 2050, 23xx, 24xx, MDxx
88	00126P0040	2	Washer lock 5/16, 2050, 23xx, 24xx, MDxx
89	6110500000	2	Spacers 2050, 23xx, 24xx, MDxx

Chart #1 Main-Shaft

Digits 7-9 > Digits 1-4	902- -906	303- 304	306	308	310	312	316	320	324	330	336	402	403	404	406
205x/ MD1x	-2	-15	-15	-17	-17	-17	-19	-21	-23	-25	-25	-15	-15	-17	-17
234x, 244x, MD2x, MD4x	-13-	-13	-13	-15	-15	-17	-17	-19	-21	-23	-25	-13	-15	-15	-17
237x, 247x, MD3x, MD5x	-4	-17	-17	-19	-19	-19	-21	-23	-25	-28	-28	-17	-17	-17	-19
257x, 267x, 277x, 288x	-6	-17	-19	-10	-21	-21	-23	-25	-25	-28	-28	-19-	-19	-19	-21

Chart #2 Sprockets

Digits 5 & 6 > Part	50	52	53	55	56	57	60	62	63	65	66	70	76	80	85
Item 20 /40822--	-26	-26	-26	-26	-26	-26	-26	-27	-28	-30	-32	-36	-44	-48	-54
Item 31 /43723-	-25	-21	-20	-17	-16	-15	-13	-12	-12	-12	-12	-12	-12	-12	-12

(Item 31 is qty one for single motor and qty 2 if twin motors)

Chart #3 Part Kits

Kit Number	Qty.	Part Number	Description	Items Included
A	1	H04010019	Kit; Idler Sprocket	2,11,12,13,14,15
B	1	H04010033 H04010034	Kit; Chain Cover single motor Kit; Chain Cover twin motors	19,24,25,26,27,28,29,44,77
C	1	H18110015 H18110016	Guide Rail Brace Kit for 2R & 3R guide rails. Guide Rail Brace Kit for 49285-3 guide rails.	48,86,87,89
D	A/R	H04010053	Kit; Jack Shaft	33,34,35,36,37
E	1	H35460025	Entrance Ring Kit	60, 68, 69, 71, 72, 74

Aero-Motive Company

W A Woodhead Industries Inc. Subsidiary
PO Box 2678
Kalamazoo, MI 49003-2678
(616) 337 7700
(800) 999 8559
FAX: (800) 333 6119
www.aeromotive.com

AKAPP Electro Industrie

W A Woodhead Industries Inc. Subsidiary
Nijverheidsweg 14 Box 54
NL-3771 ME Barneveld
NL-3771 AB Barneveld
Holland
(31) 34 241 4022
FAX: (31) 34 249 2384
www.akapp.com

Woodhead Connectivity LTD.

W A Woodhead Industries Inc. Subsidiary
Factory No. 9
Rassau Industrial Estate
Ebbw Vale Gwent NP3 5SD
United Kingdom
(0495) 35 0436
FAX: (0495) 35 0877
sales@wdhd.co.uk

Woodhead Asia PTE LTD.

W A Woodhead Industries Inc. Subsidiary
401 Commonwealth Drive #04-04
Haw Par Technocentre
Singapore 0314
(65) 261 6533
FAX: (65) 479 3588
sales@wasia.com.sg

Woodhead Canada LTD.

W A Woodhead Industries Inc. Subsidiary
1090 Brevik Place
Mississauga Ontario
L4W 3Y5 Canada
(905) 624-6518
FAX: (905) 624-9151
www.woodhead.ca