

AERO-MOTIVE COMPANY





A Woodhead Industries, Inc. Subsidiary


### Safety

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.**

-  **WARNING:** Warnings are used when hazards exist which could result in serious injury, death or property damage if proper precautions are not taken.
-  **CAUTION:** Cautions are used as reminders of safety hazards which could result in personal injury or property damage if proper precautions are not taken.

### Installation

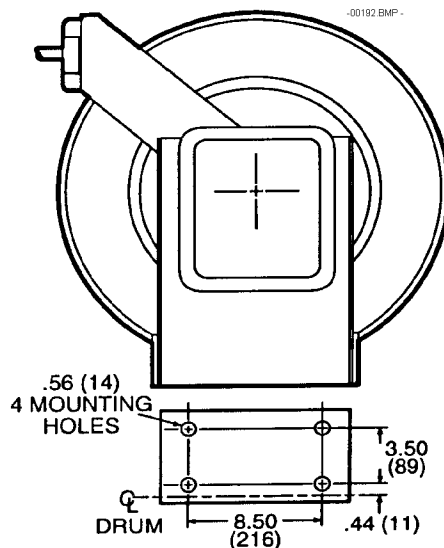
 **CAUTION:** Instruct operators in the safe, proper use and maintenance. Keep this manual for future reference.

 **WARNING :** Failure to read, understand, and follow these instructions may result in personal injury or death.

#### Mounting

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

1. The main shaft (32) must be horizontal.
2. The center line of drum must be on line with the cable run.
3. When mounted overhead in base up position, add a secondary chain, bracket, or other safety device to prevent the reel from falling in case the mounting bolts are removed or become loosened from vibration.



 **WARNING :** A secondary safety cable or chain must be attached to all reels mounted overhead to prevent reel from falling.

**CAUTION:** On reels built to CSA standards, the green wire has been grounded to the frame of the reel and cannot be used as a power conductor.

#### Pivot base

If optional pivot base is used, reel will be self-aligning to direction of cable run. The four roller cable guide must be used with pivot or swivel mounts.

#### Wiring

Input power connectins are made in junction box (7) through a connector or coupling which is inserted into the 1" x 11 1/2" N.P.S.C. pipe thread opening at the bottom of the enclosure. Individual conductors are then connected directly to the bus wires or to open side of terminal block (44). NOTE: See "Service, Working Cable Replacement/Installation" if cable needs to be installed.

#### Safety internal grounding

Standard reels are not grounded internally with the exception of reels built to CSA standards. Internal grounding must be accomplished by running a jumper wire from the proper brush assembly (22) to the grounding screw (30), and a second wire from the proper terminal on terminal block (44) to grounding screw (30). See main illustration.

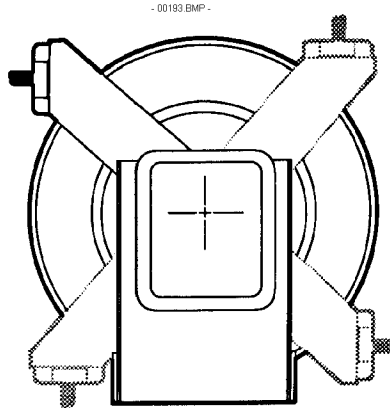
## Operation

#### Ratchet lock

Ratchet locks works in any position. If ratchet lock is supplied but not required remove ratchet pawl (36) and /or ratchets (38)

#### Cable guide

The guide arm (11) may be set at four fixed positions and must be set so the cable pays off in a straight line. To adjust cable guide arm remove cover (3) and mounting bolts (5,41). Relocate guide arm (11) to new position and install longer bolts (41) in line with guide arm and the shorter bolts (5) in remaining holes. If the guide is moved and the ratchet lock is used, pull cable out completely to be sure drum does not lock-out at end or run. If drum locks out, ratchets may need to be rotated. Consult factory.



#### Spring tension

NOTE: Adjust tension before or after installation of reel.

**CAUTION:** Do not connect working end of cable until the reel is properly pretensioned.

#### To pretension reel:

1. Wrap all cable onto the reel and engage ratchet if supplied.
2. Pull cable out far enough to allow one full wrap of cable to be placed back on reel and re-engage ratchet.
3. Wrap the cable that was pulled out back onto the reel. This sets the tension one turn.
4. Repeat to place a total of two pretension turns on the reel.
5. Pull cable out completely to ensure enough spring revolutions remain for operating.

If required, additional tension may be added by repeating the above process. After tension is set, connect cable end. Failure to pretension the reel may result in insufficient tension to retract the cable and may shorten the life of the spring.

**CAUTION:** Failure to test for adequate spring revolutions can cause spring damage.

## Service

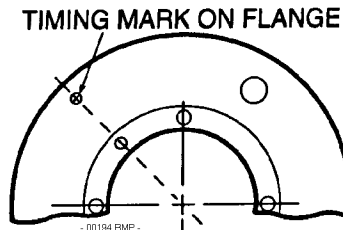
**WARNING:** Always disconnect electrical power before dismantling any part of the reel. Fuse size must not be greater than maximum amperage capacity of cable. Remove all spring tension before attempting any service.

### Main spring and spring pocket assembly

**WARNING:** Never, under any circumstances, remove the spring from its spring pocket assembly. Replacement springs are assembled in a sealed assembly for safety and there is no need to remove them. Serious injury or death could result from removal of spring from its cartridge.

If reel will not develop tension or retract cable, spring pocket assembly (13) may need to be replaced as follows:

1. Remove junction box cover (3).
2. Remove leads on terminal board from shaft in junction box. Be sure to mark order of leads to.
3. Loosen screw (9) and slide complete spool off stand with main shaft.
4. Remove main spring assembly (13) from back of spool, and remove spring hub (31) from spring and replace into new spring.
5. To reassemble, reverse the above procedure. Be sure to line up timing hole on flange with hole on spring cup. Also when reassembling, remove cover (26) and push slop ring assembly (27) against drum until spool is tight to frame, then tighten screw (9).

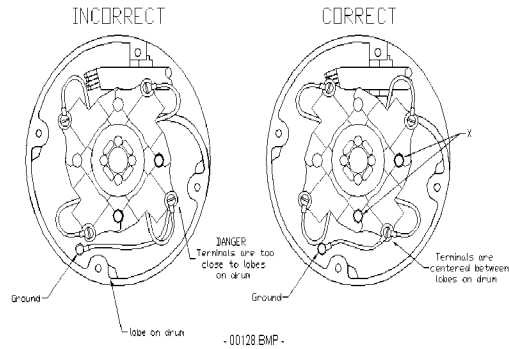


### Collector ring replacement

**WARNING:** Unplug power. Failure to disconnect could cause serious injury, death or property damage.

To service the collector ring assembly:

1. Remove junction box cover (26).
2. Unclip one end of brush holder (22) and swing out of the way. If new brush assembly is required, remove leads to brush holder and unclip both ends of brush assembly.
3. If slip ring (27) bus wires are continuous to junction box (7), remove cover(3) and disconnect bus wires. For SR400, remove connector (48-51) from collector (27) bus bars.
4. Loosen both set screws on hub of slip ring (27) and slide ring off shaft.
5. To reassemble, reverse the above procedure. NOTE: For SR900, disconnect leads in junction box (7) and pull slip ring off with leads attached.



The last brush assembly--one closest to steel hub on collector ring--must be assembled on brush studs indicated by the "X" in Figure 1. NOTE: Check position of cable entry in relationship to studs marked by "X" in Figure 1. Replace subsequent brush assemblies in clockwise rotation.



**CAUTION:** Check continuity and replace all covers before turning on electrical power.

#### Working cable replacement/installation



**WARNING** Unplug power. Failure to disconnect could cause serious injury, death or property damage.

The procedure below applies to both new installations and for replacement of working cable. To install/replace cable:

1. Remove junction box cover (26).
2. Loosen connector (17) and clamp (14).
3. Remove individual conductors of working cable from brush assemblies (22).
4. Pull working cable out through connector (17) and clamp (14).
5. Insert new cable through connector (17) and determine length needed to reach furthest brush assembly (22). Remove cable and strip back jacket as required for this length.
6. Connect working cable conductors to the proper brush assembly (22).
7. Tighten connector (17) and clamp (14).



**CAUTION:** Check continuity and replace all covers before turning on electrical power.

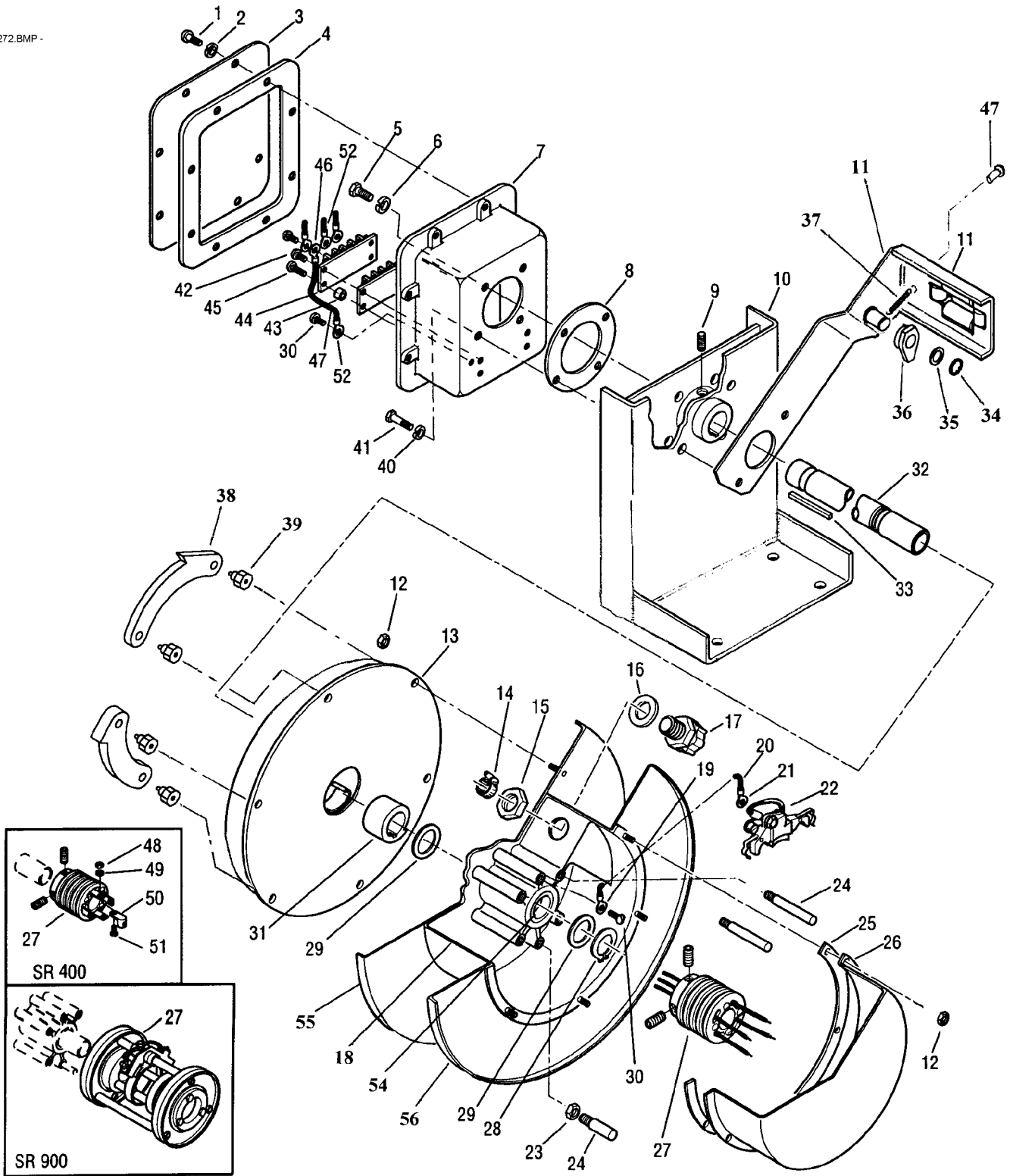
8. Replace cover.

To reassemble, reverse the above procedure.

NOTE: Cable seal (35) is a bellows type seal designed to fit different size cables. Pull out the bellows in one direction and cut the seal so that the through opening is at least 1/8 inch diameter smaller than the working cable. Always cut the seal smaller than required. More of the seal may be cut off if necessary.

# Replacement Parts

- 00272.BMP -



Reference Number	Part Number	Qty.	Description
1		8	Screw; M5 x 12 Pan Head (included with 7)
2		8	Washer, M5 (included with 7)
3	6199200000	1	Cover (included with 7)
4	6187500000	1	Gasket (included with 7)
5		AR	Screw, M10 x 20 HHCS (included with 7)
6		AR	Washer; M10 (included with 7)
7	H92110024	1	Kit, Junction box (includes 1, 2, 3, 4, 5, 6, 8, 30, 40, 41, 42)
8	6187400000	1	Gasket (included with 7)
9		1	Screw M12 x 25 set (included with 10)
10	H92110023	1	Kit Stand (includes 9)
11	H92110025	1	Kit, Guide assembly (includes 40, 41)
12		20	Nut, M5 lock (included with item 18, 26, 38)
13 *	H41210020	1	Spring and cup (1051-01)
	H41210021	1	Spring and cup (1051-02)
	H41210022	1	Spring and cup (1051-03)
14		1	Clamp (included with 17)
15		1	Nut, 1 inch NPT (included with 17)
16		1	Gasket (included with 17)
17	H80130001	1	Cable connector (for cable OD .375 - .437 inch) (includes 14, 15, 16)
	H80130002	1	Cable connector (for cable OD .437 - .500 inch) (includes 14, 15, 16)
	H80130003	1	Cable connector (for cable OD .500 - .625 inch) (includes 14, 15, 16)
	H80130004	1	Cable connector (for cable OD .625 - .750 inch) (includes 14, 15, 16)
	H80130005	1	Cable connector (for cable OD .750 - .875 inch) (includes 14, 15, 16)
	H80130006	1	Cable connector (for cable OD .875 - 1.000 inch) (includes 14, 15, 16)
	H80130007	1	Cable connector (for cable OD 1.000 - 1.100 inch) (includes 14, 15, 16)
18	H42330556	1	Kit, Spool (includes 12, 30, 54, 55, 56)
19		1	Terminal (included with 20)
20	H81220001	1	Kit, Ground wire #10 (1051-xx-3xxx-G and T) (includes 19, 21, 30, 46)
	H81220002	1	Kit, Ground wire #8 (1051-xx-4xxx-G and T) (includes 19, 21, 30, 46)
21		1	Terminal (included with 20)
22	H97620024	AR	Brush and holder complete (1051-xx-3xx0)
	H97620028	AR	Silver brush and holder complete (1051-xx-3xxS)
	H97620026	AR	Brush and holder complete (1051-xx-4xx0)
	6124600000	AR	Brush and holder complete (1051-xx-9xx0) (included with 27)
23	C22180120	1	Hex nut, M10 (1051-x-902)
24	M25362037	4	Brush stud (1051-xx-303, 304, 306, 402 and 403)
	M25362056	4	Brush stud (1051-xx-308, 310, 404 and 405)
	M25362082	4	Brush stud (1051-xx- 312, 314 and 316)
	M25461099	4	Brush stud (1051-xx-320)
	M25461117	4	Brush stud (1051-xx-324)
	M25060011	1	Drive stud (1051-xx-902)
25	6187300000	1	Gasket (included with item 26)
26	H26340010	1	Kit, Cover (1051-xx-303, 304, 306, 402 and 403) (includes 12, 25)
	H26340011	1	Kit, Cover (1051-xx-308, 310, 404 and 405) (includes 12, 25)
	H26340012	1	Kit, Cover (1051-xx-312, 314, 316 and 902) (includes 12, 25)
	H26340013	1	Kit, Cover (1051-xx-320) (includes 12, 25)
	H26340014	1	Kit, Cover (1051-xx-324) (includes 12, 25)
27	H96420225	1	Collector assembly (1051-xx-3030)
	H96420226	1	Collector assembly (1051-xx-3040)
	H96420227	1	Collector assembly (1051-xx-3060)
	H96420228	1	Collector assembly (1051-xx-3080)
	H96420229	1	Collector assembly (1051-xx-3100)
	H96420230	1	Collector assembly (1051-xx-3120)
	H96420232	1	Collector assembly (1051-xx-3160)
	H96420152	1	Collector assembly (1051-xx-304S)
	H96420154	1	Collector assembly (1051-xx-306S)

	H96420156	1	Collector assembly (1051-xx-308S)
	H96420400	1	Collector assembly (1051-xx-4020)
	H96420401	1	Collector assembly (1051-xx-4030)
	H96420402	1	Collector assembly (1051-xx-4040)
	H96420406	1	Collector assembly (1051-xx-4050)
	SR902	1	Collector assembly (1051-xx-9020) (includes 22)
28	00576P0020	1	Retaining ring, 1.5 inch OD shaft
29	4011900000	2	Spacer
30		2	Screw, M6 x 10 Pan head (included with 7)
31	6187000000	1	Spring hub
32	6203100001	1	Main shaft (1051-xx-302, 303, 304, 402)
	6203100002	1	Main shaft (1051-xx-306, 308)
	6203100003	1	Main shaft (1051-xx-310, 312)
	6203100005	1	Main shaft (1051-xx-314, 316)
	6203100006	1	Main shaft (1051-xx-320)
	6203100006	1	Main shaft (1051-xx-324)
	6203100004	1	Main shaft (1051-xx-403, 404, 405, 902)
33	4077300020	1	Key
34		1	Retaining ring, .75 inch OD shaft (included with 36)
35		1	Washer (included with 36)
36	H18110023	1	Kit, Ratchet pawl (1051L) (includes 34,35, 37, 47)
37	5385600000	1	Ratchet spring (included with 36)
38	H18110024	2	Kit, Ratchet (1051L) (includes 12, 39)
39	M36870011	4	Spacer (included with 38)
40		2	Washer, M8, spring lock (included with 7, 11)
41		2	Screw, M8 x 45 HHCS (10510) (included with 7, 11)
		2	Screw, M8 x 50 HHCS (1051A, 1051L) (included with 7, 11)
42		4	Screw M5 x 20 (included with 7, 44)
43		2	Spacer (included with 44)
44	H80230016	1	Kit, Terminal block (1051-xx-302, 303, 304) (includes 42, 43, 44, 45, 52)
	H80230017	1	Kit, Terminal block (1051-xx-306, 308) (includes 42, 43, 45, 52)
45		2	Screw M5 x 40 (included with 44)
46		1	Terminal (included with 20)
47		1	Clevis pin, 3/16 dia. x 1/2 (included with 36)
48-51	6150400002	AR	Wire connector (1051-xx-4xx)
52		2	Terminal (included with 44)
53			
54	C50510197	2	Bearing (included with 18)
55	M56450056	1	Flange inner (included with 18)
56	M56450052	1	Flange outer (included with 18)

\* Recommended Spare Parts