



Safety

Recognize Safety Information



When you see this symbol in this instruction manual or on the retracting reel be alert to the potential for personal injury or death.

Understanding Signal Words



WARNING: Indicates a situation in which personal injury or death may occur.



CAUTION: Indicates a situation in which damage to equipment or material may occur.

Follow Safety Instructions

Carefully read all safety, instructions, and operational instructions in this manual and in labels located on the reel. Failure to follow these instructions may result in property damage, personal injury, or death. If you do not understand any part of this manual and need assistance, call Aero-Motive Company 1-800-999-8559

Model ERL51000 reel retracts up to 60 feet #2/0, 75 feet #1/0, 80 feet #1 or #2 AWG cable.

Installation

A. Reel Mounting

Reel may be mounted with the base up, with the base down, or in any position that maintains the mainshaft in a horizontal position.



CAUTION: Misalignment of the reel and cable travel direction will cause the cable to be deflected at a sharp angle around the cable guide rollers. This may shorten the usable life of the cable and/or slow the retraction rate.




CAUTION: The reel should be bolted securely to a flat metal surface of sufficient strength and rigidity to support it under all conditions to which it will be subjected. Mounting holes will accommodate 1/2 inch or 12mm bolts.

B. Cable Installation

1. Select suitable cable size to fit application. The cable should have fine stranding for flexibility and a jacket suitable for rough handling.
2. Remove the cover (26) and gasket (25).
3. Loosen nut on cable connector (22)
4. Pass cable end through the cable connector (22) and the cable clamp (19).
5. Either strip and tin the cable end or apply a suitable pin connector.
6. Insert cable end or pin connector into the .65 inch diameter hole on the rotating part of the slip ring (24).
7. Secure cable in place by tightening the HHCS bolt and jam nut on the slip ring.

Note: Allow some slack in the cable between its termination at the slip ring (24) and its entrance into the spool assembly at the cable connector (22).


8. Tighten the nut on the cable connector (22).
9. Hold the cable clamp (19) against the inside edge of the cable connector (22) and tighten screw to secure cable.
10. Reinstall the cover (26) and gasket (25), securing them with the six locknuts.

 **WARNING:** All steps related to termination of the cable must be followed carefully. Failure to properly terminate the cable may result in property damage, personal injury, or death.

11. The cable can now be wound onto the spool assembly.


C. Applying Spring Tension

1. After the cable is fully wound on the spool assembly, develop one and two prime tension turns by rotating the spool assembly one or two times against the spring tension.
2. Pass the cable through the cable guide assembly (6) and install the cable stop (28) with the desired amount of cable protruding.

 **CAUTION:** Check to make sure that the cable can still be pulled out without winding the main spring to the end. If the cable can not be pulled out completely, too many prime turns have been applied and some will have to be removed. Operating the reel with too many prime turns will restrict the cable travel and shorten the life of the main spring.

D. Welding Connection


1. Remove the slip ring from shaft.
2. Bring lead wire from power source through shaft.
3. Strip back 1/2 and tin end of wire.
4. Place in slip ring and tighten set screw down to cable.
5. Reassemble slip ring to shaft.

 **WARNING:** Striping back too much wire for connection may cause the reel to short out or create an electrical shock hazard and could result in property damage, personal injury, or death.

E. Cable Guide

To position the guide assembly (6):

1. Remove the two screws (1) and washers (2)
2. Place guide assembly (6) so that the cable will wrap directly onto the assembly (23) with as little deflection over the roller as possible. The cable guide assembly (6) can now be positioned in any one of four locations.
3. Insert and tighten the two screws (1) and washers (2) through the base (5) into the guide assembly (6).

 **CAUTION:** Pulling the cable at sharp angles to the cable guide will shorten the cable life and retard retraction speed

Reel Operation

A. Ratchet Lock

The reel is equipped with a ratchet which will hold the spool assembly at any of several positions per spool assembly revolution and prevent it from retracting. To release the ratchet, pull the cable out until the ratchet assembly (15) disengages. The reel can then retract the cable.

Maintenance and Service

A. Electrical

1. Inspect all cable connections at least monthly.
2. Resistance through the reel slip ring assembly should never exceed 0.001 ohms. If so, return to Aero-Motive Company for inspection and repair.


Note: *The slip ring assembly has been designed in such a manner that it cannot be disassembled.*

B. Mainspring Replacement

If the reel will not develop tension or retract cable, the spring assembly may need to be replaced.

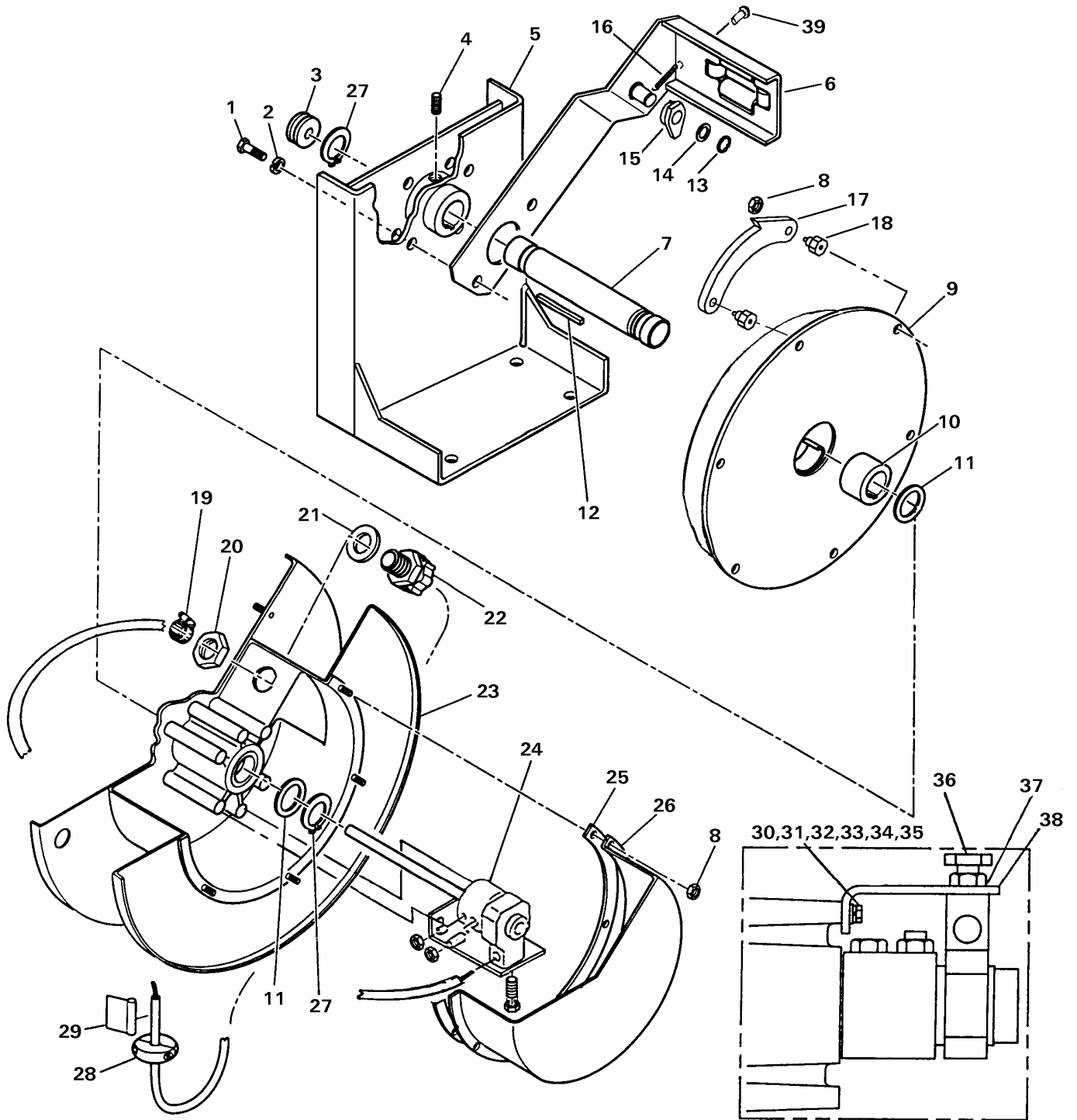
To replace mainspring:

1. Disconnect the input grounding connection.
2. Remove cover (26) and gasket (25)
3. Loosen set screw (4), remove, retaining ring (27), and slide complete spool with mainshaft out of the hub in the base (5).
4. Remove the six locknuts (8) that fasten the mainspring housing assembly (9) to the of the spool assembly (23).
5. Remove the mainspring housing assembly (23), being careful not to misplace the (12).
6. Remove the hub (10) from the mainspring housing assembly (9).
7. Install hub (10) into new mainspring housing assembly (9).
8. Insert key (12) into slot in mainshaft (7).
9. Slide the hub (10) and new mainspring housing assembly (9) onto mainshaft and key.
10. Line up the timing hole near the outer edge of spring housing assembly and timing hole in the spool flange. Secure with six locknuts (8).
11. Insert the mainshaft into the hub in the base (5) and reassemble retaining ring (27) to the protruding end of mainshaft.
12. Check that there little axial play and tighten set screw (4)
13. Secure the cover (26) and gasket (25) to the spool assembly (23) using the six locknuts(8).
14. Adjust the spring tension. (See **Apply Spring Tension.**)

	WARNING: Spring pocket assemblies are sealed to prevent disassembly. Do not attempt to remove spring from its pocket. Uncontrolled release of spring tension may occur causing property damage or personal injury.
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	WARNING: Carefully inspect all wire connections after any service work is conducted. Failure to do so could result in property damage, personal injury, or death.
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Replacement Parts



- 00273.BMP -

Item Number	Part Number	Qty.	Description
1		2	Cheese HD screw, M5 x 25 (included with 6)
2		2	Lock washer, M8 (Included with 6)
3	C01590218	1	Grommet
4		1	Set screw, M12 x 25 (included with 5)
5	H22110411	1	Base (includes 4)
6	H22110412	1	Kit, Guide assembly (includes 1, 2)
7	M34060018	1	Main shaft
8		12	Hex lock nut, M5 (included with 17, 23, 26)
9 *	H41210020	1	Main spring housing assembly
10	6187000000	1	Main spring hub
11	4011900000	2	Main spring spacer
12	4077300020	1	Key
13		1	Retaining ring (included with 15)
14		1	Ratchet spacer (included with 15)
15	H18110023	1	Kit, Ratchet pawl (includes 13, 14, 16, 39)
16	5385600000	1	Spring (included with 15)
17	M36870011	4	Spacer (included with 18)
18	H18110024	2	Kit, Ratchet (includes 8, 17)
19		1	Clamp (included with 22)
20		1	Conduit nut 1 inch (included with 22)
21		1	Gasket (included with 22)
22	H80130008	1	Kit, Cable connector (includes 19,20,21)
23	H42320037	1	Kit, Spool assembly(includes 8)
24	B87780001		Slip ring assembly
25	6187300000	1	Gasket (included with 26)
26	H82630048	1	Kit, Slip ring cover (includes 8, 25)
27	00576P0020	2	Retaining ring
28	STM2	1	Kit, Cable stop
29	M13630009	1	Warning label
30		1	Screw, M10x20mm (included with 38)
31		1	Lock washer, M10 (included with 38)
32		1	Washer, M10 (included with 38)
33		1	Screw, M6x20mm (included with 38)
34		1	Lock washer, M6 (included with 38)
35		1	Washer, M6 (included with 38)
36		1	Bolt M12x40 (included with 38)
37		1	Jam nut, M12 (included with 38)
38	H92110026	1	Kit, Bracket (includes 30, 31, 32, 33, 34, 35, 36, 37)
39		1	Clevis pin, 3/16 dia. x 1/2 (included with 15)

* Recommended Spare Parts

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