



Safety

Understanding Signal Words

- 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.

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.

Installation

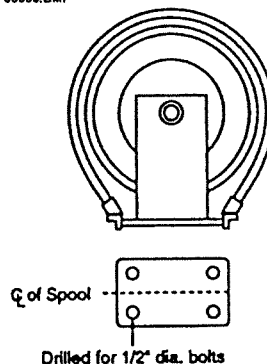
- WARNING:** Lock out all electrical power and remove all spring tension from the reel before opening any enclosure or performing any service to this reel. Make sure all circuits carry appropriate fuse protection.
- CAUTION:** Misalignment of the reel and cable travel direction will cause the cable to 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.

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:

- The main shaft must be horizontal.
- The center line of the spool assembly must be on line with the cable run.
- 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.

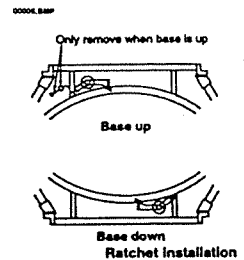
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Ratchet

When specified, the reels are equipped with a ratchet stop. The tension of the motor spring holds the reel against the ratchet. A sharp tug on the cable releases the ratchet dog permitting the reel to retract the cable. Each ratchet dog is supplied with a counter-weight fastened by a single screw. The position of the ratchet and the use of the counter-weight depend upon the installed position of the reel. Here are requirements for ratchet usage:

- For wall mounting: The reel must be mounted with the ratchet side of the frame down and the counter-weight attached.
- For base down mounting: Use the ratchet counter-weight.
- For base up mounting: Remove the counter-weight.



Incoming Cable Connection

1. Strip cable jacket back 1 inch from end and tin cable, for connection in slip ring.
2. Bring cable through main shaft and connect the cable to the slip ring (4).
3. Tighten the set screw and jam nut on slip ring to tinned end of cable.

Working Cable installation



WARNING: Lock out all electrical power and remove all spring tension from the reel before opening any enclosures.

The procedures below apply to both new installations and for replacement of working cable. To install or replace working cable.

1. Select suitable cable size to fit application and a jacket suitable for handling.
2. Remove cover from entrance ring assembly(47).
3. Loosen nuts on cable connector
4. Pass cable end through the cable clamp (19) and then cable connector (38).
5. Either strip and tin the cable or apply a suitable pin connector.
6. Insert cable end or pin connector into the hole on the rotating part of the slip ring (4).
7. Secure cable in place by tightening the set screw and jam nut on the slip ring (4).

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

8. Tighten the nut on the cable connector (38) and cable clamp (19).
9. Reinstall the cover and gasket (47).

Loading working cable

Load the working cable onto the spool assembly by manually winding the reel. Count the number of turns required to fully load the cable; you will use this count in "setting spring tension." While winding, observe cable wrapping pattern and make sure that all twists and kinks are removed from the cable. Cable twists can cause an erratic wrapping pattern and shorten cable life.

NOTE: Wrapping of the cable will produce a clinking sound as the springs disengage from the drive hubs. This is a protective action to prevent damage to the spring while winding. All springs will re-engage when the cable is pulled out.

Do not terminate the free end of the working cable until the reel is pretensioned.

Setting spring tension

The reels are not pretensioned. To prepare reel for use, you must apply pretensioning turns to the spool assembly before connecting the free end of the working cable.

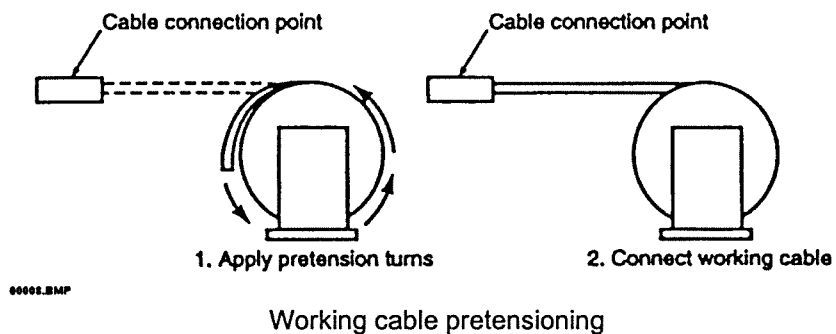
The number of pretension turns required can vary considerably depending on each individual application and on desired cable tension force. You set spring tension by turning the fully wrapped reel through a specific number of revolutions or turns. Here are guidelines on setting spring tension:

The **target number** of pretension turns is the number of turns that were required to wrap the working cable around the spool assembly. See "loading working cable."

The **minimum number** of pretension turns is 6.

If the **minimum number** is larger than **target number**, use the minimum count for the number of pretension turns.

If the **target number** is larger than the **minimum number**, you must guard against setting excessive spring tension. Never apply so many turns that the springs are worked to the end of their travel. Always leave several turns between the end of the spring and the position of the spool assembly when the cable is fully extended. If the spring reaches the end of its travel before satisfactory tension is achieved, consult the factory.



Service

Spring and cup assembly

When servicing the spring and cup assembly it is not necessary to remove cable from spool assembly or loosen water tight cable connector at fitting.

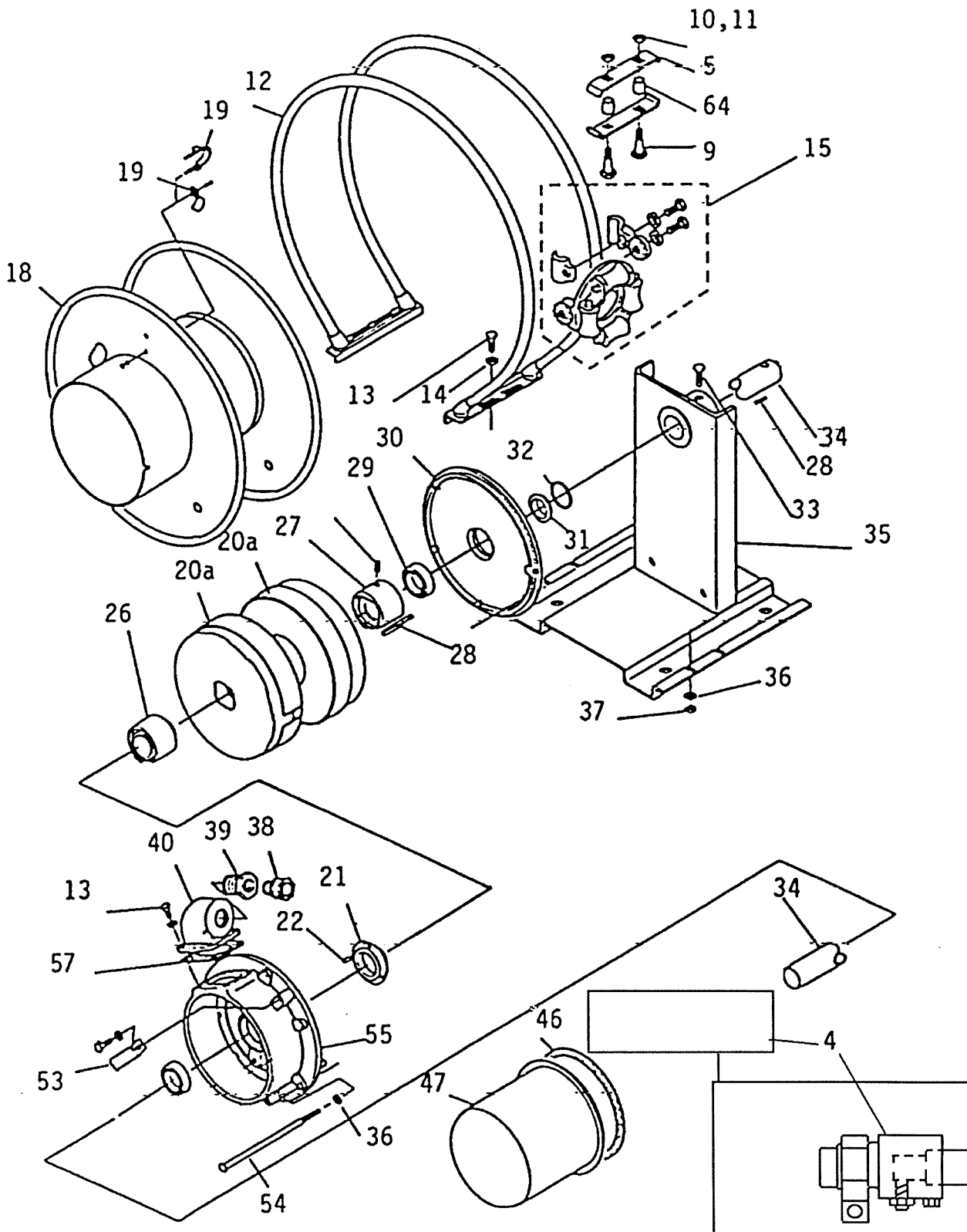
To service spring and cup assembly:

1. Unscrew and remove cover (47).
2. Disconnect working cable from slip ring.
3. Remove two hex head cap screws and fitting (40).
4. Remove the fitting and working cable from the entrance ring assembly.
5. Remove bolts from cable drum (54). Remove entrance ring assembly, driving ring, and spacer. The spool (18) must be removed to remove the springs because the space is limited.
6. The spring and cup assembly is now exposed and may be removed.

To reassemble, reverse the above procedure, making sure the spring centers properly engage the hubs. Individual parts should fit snugly and squares should be engaged.

After reel is reassembled, see "Setting spring tension" for instructions on pretensioning the ring.

Replacement Parts



Reference Number	Part Number	Qty.	Description
4	B87780001	1	Welding slip ring
5	M52410015	2	Tie bar - 4 inch
9	C13490015	2	Bolt, carriage M8x45
10	C22180118	2	Nut, hex head M8 x 1.25
11	C01190118	2	Lock washer, spring M8
12	4183200000	1	1R Guide rail assembly
13	C11080564	8	Hex head cap screw, M6x25
14	C01070558	4	Flat washer, SAE M6
15	B13310010	A/R	Cable guide assembly (2-FMYE)
18	4290400010	1	Assembly; drum
19	H16120036	1	Clamp assembly (.312 - .499 OD)
	H16120037	1	Clamp assembly (.500 - .624 OD)
	H16120038	1	Clamp assembly (.625 - .749 OD)
20	4378200110	3	Spring and cup assembly (10 spring standard rotation)
21	4017600000	4	Driving ring
22	00230P0122	A/R	Drive pin (.156 diameter x .625)
24	H46230011	A/R	Ratchet assembly (optional) (1100M)
26	5974400001	2	Rotating spring hub assembly (2 inch fixed, standard rotation)
27	M76420020	1	Fixed spring hub (2 inch fixed, standard rotation)
28	4077300002	2	Square key
29	4000500000	2	Bearing
30	M65140092	1	End plate, cable drum
31	4291900000	1	Combination spacer and bearing seal
32	4292000000	1	Seal, bearing
33	M26740127	1	Hex head screw, M12x1.25
34	4014900001	1	Main shaft
35	H22110388	1	Stand, weldment (model 1100M)
36	C01190116	17	Lock washer, spring M6
37	C22180116	4	Nut, hex M6
38	01151P0019	A/R	Connector, cable (.375 - .499 OD)
	01151P0020	A/R	Connector, cable (.500 - .624 OD)
	01151P0021	A/R	Connector, cable (.625 - .750 OD)
39	00669P0045	A/R	Bushing - 2-1-1/4
40	5491000001	1	Goose neck fitting (.375 - .929 OD)
41	C71180001	1	Cover, conduit
45	C01190115	A/R	Lock washer M5
46	M14210027	1	Gasket
47	H82630032	1	Cover
51	00580P0137	1	Retaining ring (1.500)
53	M53800005	3	Conver clamp
54	M26740134	6	Tie bolt
55	M64560017	1	Entrance ring
57	5491200000	1	Gasket
64	6110500000	2	Spacer

* Recommended spare parts

** Available upon request

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