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FORM #SM5809-04 BI
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SERVICE MANUAL WELDING REEL, SERIES 120A & 140A

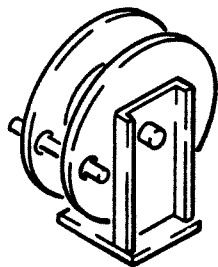
I. REEL INSTALLATION

- A. **MOUNTING:** Most reels are equipped with hose and are ready for installation. Welding reels are equipped with a fixed base and can be mounted in any position--either base up or base down, wall mounted, or in any position which allows the mainshaft to be horizontal. The reel should be mounted so that it is level, and the centerline of the drum is in line with the hose run. If the reel cannot be mounted in this way, consult the factory; special hose guides and additional tension may be required.
- B. **SAFETY CHAIN:** When a reel is mounted overhead, it is recommended that a secondary chain, bracket, or other device be used to prevent the reel from falling if the mounting bolts are removed or loosened due to vibration.
- C. **INPUT CONNECTIONS:** Lead-in hoses (KH-24) are available from the factory as an optional item, when not supplied with the reel. Connect the input supply hose to the fittings (KH-1 and KH-2) on either end of the shaft. *Rigid pipe should not be used on input connections.*
NOTE: Be sure to check for any leaks at all fittings before using reel.

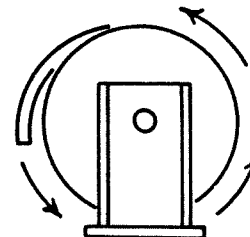
II. ADJUSTMENT

CAUTION: Before making any adjustments, remove all tension from reel.

- A. **TENSION ADJUSTMENT:** Reels shipped complete with hose are pretensioned at the factory. Reels shipped less hose require pretensioning after hose is installed on reel and before making final connection of loose end of hose.



HOSE CONNECTION POINT



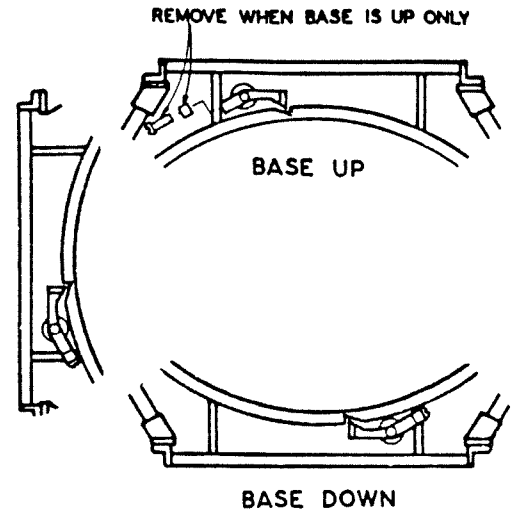
APPLY PRETENSION TURNS

1. Pull hose out far enough to allow one full wrap of hose to be wrapped back over drum. Place a bar through the holes located near edge of flanges to prevent drum from turning while hose is placed back on reel.
2. This places one (1) pretension set-up turn on reel. Repeat above procedure until proper number of set-up turns have been applied. AERO-MOTIVE recommends a minimum of six (6) set-up turns for optimum spring life.
3. After tension is set, pull hose out completely to insure that enough spring travel remains for operating, and that all twists and kinks are removed from the hose.
4. Complete connections at loose end of hose.

CAUTION: Never apply too much tension. Always leave at least one to two turns between position of drum when hose is fully extended and the point where the spring ends or "bottoms out". Insufficient pretension may cause sluggish action when retracting and may also shorten spring life. Over-tensioning can damage both hose and reel.

II. ADJUSTMENT (cont.)

- B. HOSE GUIDE: To adjust roller guide (KH-34) loosen bolts on clamp (KH-37), slide roller guide into position for proper alignment and tighten bolts (KH-36).
- C. RATCHET LOCK: The ratchet lock (KH-20) is a gravity type and is furnished with a counterweight fastened to the end of the ratchet dog (KH-61). The tension of spring holds the reel against ratchet, and a sharp tug on the hose releases ratchet dog, permitting the reel to retract the hose. When mounted base up, counterweight must be removed. When wall mounted, reel must be mounted with ratchet side of the frame down and counterweight attached. If constant tension is required, ratchet dog (KH-20) may be removed by removing retaining ring (KH-59).



III. MAINTENANCE

CAUTION: Only lubricants that are approved for use with oxygen should be used on swivel components and hose fittings. Before servicing, cut off gas supply and remove all spring tension from reel.

A. HOSE REPLACEMENT:

1. Remove stop (KH-44) and hose clamp (KH-45).
2. Remove all tension from reel and remove hose (KH-43) from reel.
3. Remove hose clamp (KH-41).
4. Hose can now be removed from swivels (KH-4).
5. To replace hose, reverse above procedure, making sure that all fittings and clamps are snug.
6. It is recommended that all fittings be sealed with thread sealer that is approved for use with oxygen.
7. Pretension reel as described in section II,A.

B. MAINSRING REPLACEMENT:

CAUTION: All springs are potentially dangerous and must be handled with care. If it is necessary to disassemble reel to replace springs, follow the instructions carefully.

NOTE: This reel contains three (3) springs. If one of them has broken due to fatigue, it is recommended that all of the springs be replaced to avoid excessive down time.

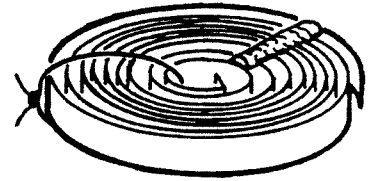
1. Disconnect hose from supply and remove stop (KH-44) from hose.
2. Disconnect hose (KH-43) from fittings on swivel (KH-4), but leave hose on spool.
3. Disconnect input hose from fittings (KH-1).
4. Lay reel so that the mounting base (KH-21) is down.
5. Remove swivel (KH-4) from shaft (KH-6) and remove collar (KH-7) by loosening set screw (KH-47).
6. Loosen the six bolts (KH-10) so that end plate (KH-9) can be removed. Drive ring (KH-12) may come off with end plate, if not, remove drive ring.
7. Slide complete spool (KH-38) off reel with hose (KH-43) on spool, leaving springs (KH-13) exposed and on main shaft.

B. MAINSRING REPLACEMENT (cont.)

8. Spring assemblies must be removed carefully from shaft. When removing spring assembly carefully grasp spring and cup so that spring remains in cup.

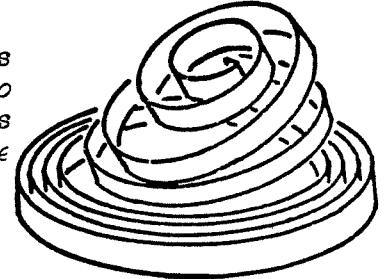
CAUTION: Main springs are containerized for easy handling and safety. The spring should not be removed from spring cup at any time.

9. When disposing of old or broken spring assemblies, coils should be welded or wired securely together to prevent possible injury to scrap handling personnel.



10. If spring hub (KH-15) comes off shaft with spring cup, place hub in new spring cup assembly, making sure that the hub engages the spring.

CAUTION: Hold center of spring down as hub is pulled out. If center is allowed to raise up, spring may escape from its container with enough force to cause injuries.



11. Replace broken spring assembly and re-assemble reel by following steps 1-8 in reverse order. When replacing spring assemblies make sure that square projection on end of spring hub is properly engaged in the opening in the spring cup. Be sure when replacing spool that pins (KH-18) of the end plates are engaged into slots of the drum.
12. Pretension reel as described in section II,A.
13. LUBRICATION--Springs and bearings have been sufficiently lubricated at the factory to last for normal life of reel. If the grease has been removed during maintenance, it should be replaced with good quality high-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.

C. O-RING REPLACEMENT:

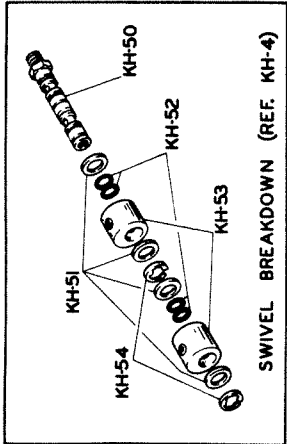
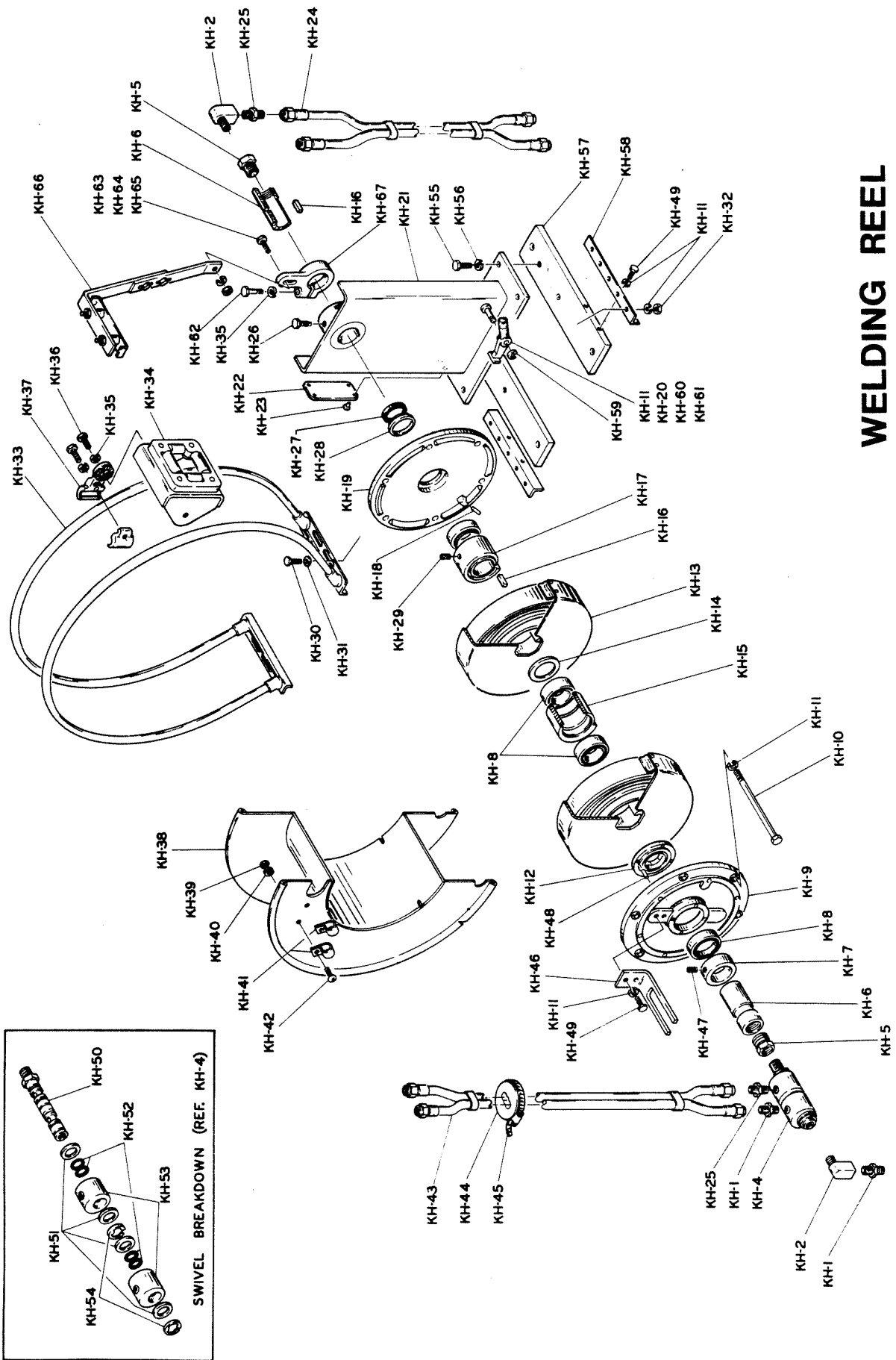
CAUTION: Before servicing, cut off gas supply and remove all spring tension from reel.

1. Remove input hose (KH-24) from fitting (KH-1) at swivel end and main hose (KH-43) from the swivel (KH-4).
2. Now the complete swivel (KH-4) can be removed.
3. Disassemble swivel (KH-4) by removing retaining rings (KH-54), and washers (KH-51). (See inset in illustration.)
4. Slide swivel bodies (KH-53) from shaft (KH-50).
5. Remove old O-Rings and any contamination from shaft and swivel.
6. Install new O-Rings (KH-52) on shaft (KH-50). Special care should be used when reassembling swivel body on shaft so that O-Rings are not damaged. A light coat of special grease approved for use with oxygen may be used on O-Rings and shaft for ease of assembly.

CAUTION: Only use lubricants that are approved for use with oxygen.

7. Reverse above procedure for reassembly.
8. Pretension the reel as described in section II,A.

CAUTION: Use of petroleum based lubricants on swivel components or hose fittings can cause fire or explosion.



WELDING REEL 120A & 140A