

Aero-Motive

W A Woodhead Industries, Inc. Company
P.O. Box 2678 • Kalamazoo, Michigan 49003
Telephone: (616) 381-1242 • Telex: 224420

SERVICE MANUAL
SERIES: DH, DUAL HYDRAULIC HOSE REEL

FORM: SM5640-02CQ
DATE: March 1, 1986

I. INSTALLATION

The reel may be mounted in any position which allows the main shaft to be horizontal, and hose line to be perpendicular to the center of the reel. The reel may be bolted directly to the customer's equipment, or to the optional mounting block (21) which is welded to the customer's equipment.

II. HOSE INSTALLATION AND REPLACEMENT

CAUTION: *Before servicing, cut off hydraulic supply and relieve pressure. Remove all spring tension from reel.*

1. Supply input hoses may be connected directly to the mounting frame (16) (3/4-16 UNF O-ring ports) or to the optional adapter fittings (20).
2. Working hose is installed in the same manner to the swivel assembly located inside the spool assembly (9). The reel is provided with 3/4-16 UNF O-ring ports. Optional adapters (20) for J.I.C. 37 degree flare fittings are available.
3. Wind hose on reel by reverse winding the reel. A click will be heard when the reel is reverse wound. This will not damage the reel, as the spring will automatically re-engage the spring hub when hose is pulled out.
4. Follow spring set-up procedure as outlined in Section III, before attaching free end of working hose.
5. Double check continuity of circuits before making final connections.
6. Make sure hoses are straight and not twisted as this will affect the way the hose winds on the spool and shorten hose life.

III. SPRING TENSION ADJUSTMENT

CAUTION: *Before any adjustment, disconnect the hydraulic supply and remove all tension from the reel. Before connecting the free end of hose, the reel will require approximately three (3) "pretension" or priming turns to establish initial tension. This should be adequate for most applications. If not, due to hose length, more or less tension may be applied.*

1. To pretension a reel, pull hose out until spring engages, continue to pull hose rotating drum one complete turn.
2. Hold drum stationary and loop hose back around the drum of the reel.
3. Repeat until adequate "pretension" applied (approximately 3 turns).
4. Pull entire hose length off from the reel and remove all twists and kinks, make sure there are adequate turns left in the spring to allow full payout.

III. SPRING TENSION ADJUSTMENT (Continued)

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

5. Connect other end of working hose being careful not to lose any of the "pretension" turns, and avoiding any twists in the hoses.

IV. MAIN SPRING REPLACEMENT

CAUTION: *Remove all tension from reel before disassembling.*

1. If main spring is broken, there will be no tension to remove. If spring is not broken, disconnect hose at free end and allow reel to retract hose slowly. Carefully release set-up turns.
2. Remove the six nuts (19) and lockwashers from studs on the flange (9), which secure spring container (2).
3. Pull spring container (1) from flange very carefully, then remove spring hub (2) from old spring container.
4. Place spring hub (2) into new spring container (1) making sure hub is engaging the spring.
5. Replace the new spring container (1) on the flange, being sure that the spring hub has engaged the drive pin (17) on the main shaft (6).
6. Replace the six nuts (19) and lockwashers to flange and tighten.
7. Replace "pretension" turns as described in Section III.

V. SEAL REPLACEMENT

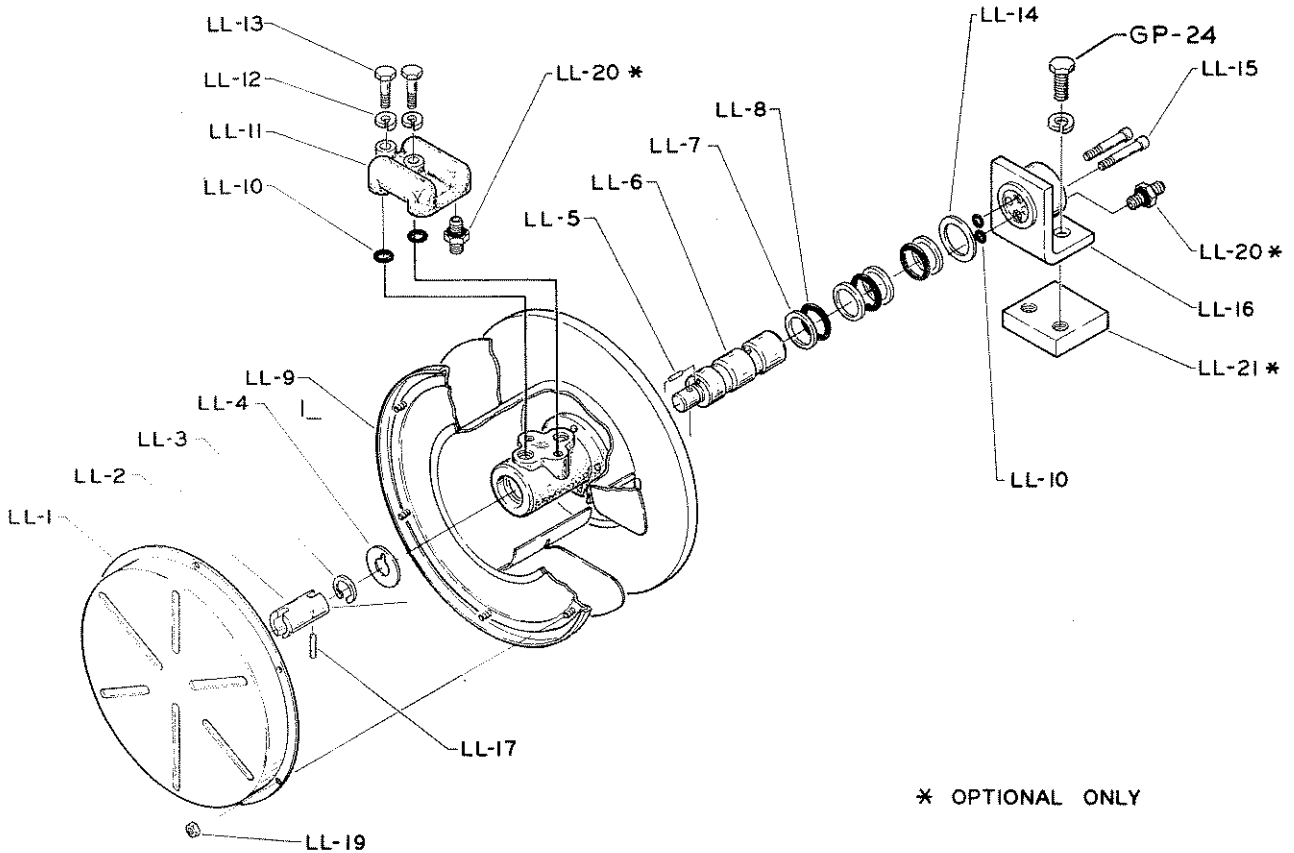
CAUTION: *Before servicing, remove hydraulic pressure and drain lines to avoid excessive spillage.*

Disassemble in a clean environment to avoid damage to shaft and swivel. Remove all contamination from shaft and swivel before replacing.

1. Remove all tension from reel (Ref. IV-1), then disconnect hose at free end and unwind from reel.
2. Remove the six nuts (19) and lockwashers (18) from spring container (1). Then carefully pull spring container from flange. Be sure hub (2) is retained in spring for reassembly.
3. Remove retaining ring (3) and washer (4) from end of shaft (6).
4. Very carefully slide main shaft (6) out of swivel through other end.
5. Carefully remove O-rings (8) and back-up rings (7) from inside of swivel.
CAUTION: *Do not scratch or mar inside surface of swivel.*
6. Replace O-rings (8) and back-up rings (7) in same order shown on illustration. A light coat of hydraulic oil or O-ring lubricant applied to the O-rings and back-up rings will allow easy installation of shaft and insure proper sealing of the O-rings.
7. For replacing static seals between shaft and hub assembly (16), remove bolts (15)

V. SEAL REPLACEMENT (Continued)

8. For replacing static seals (10) between swivel and swivel adapter (11), remove bolts (13) and lockwashers from top of swivel adapter. Carefully pull swivel adapter off of swivel and replace static seals (10).
9. To reassemble, reverse the above procedure. Pretension reel as described in Section III.



* OPTIONAL ONLY

PARTS LIST DUAL HYDRAULIC HOSE REEL, SERIES: DH

ITEM NO.	QTY.	DESCRIPTION	ITEM NO.	QTY.	DESCRIPTION
LL-1	1	Spring Assembly	LL-13	2	Bolt (M8 x 1.25 x 35)
LL-2	1	Spring Hub	LL-14	1	Thrust Washer
LL-3	1	Retaining Ring	LL-15	2	Bolt (M10x1.5x35) (Soc. Hd.)
LL-4	1	Retaining Washer	LL-16	1	Hub Assembly
LL-5*	1	Drive Pin	LL-17	1	Drive Pin
LL-6	1	Main Shaft	LL-18	6	Lockwasher (M5)
LL-7	4	Back-up Ring	LL-19	6	Nut (M5)
LL-8	3	O-Ring			
LL-9	1	Drum Assembly	OPTIONAL		
LL-10	4	Static Seals	LL-20	AR	Fitting (9/16-18 J.I.C.)
LL-11	1	Swivel Adapter		AR	Fitting (3/4-18 J.I.C.)
LL-12	2	Lockwasher (M8)	LL-21	AR	Mounting Block (MB-1)
			LL-23*	AR	O-Ring Kit (incl. #7,8,10)

*Recommended Spare Parts

AERO-MOTIVE

A SUBSIDIARY OF DANIEL MCGOUGH INC.

AERO-MOTIVE MFG. CO.P.O. Box 2678 • Kalamazoo, Michigan 49003
Telephone (616) 381-1242 • Telex: 224420PARTS SHEET #PP5640-02GM
EFFECTIVE DATE: JULY 1, 1982

DUAL HYDRAULIC MODEL NO.: DH

SUPERSEDES ALL PREVIOUS SHEETS
(Ref. SM5640-02 & 62479)

NOTE: WHEN ORDERING PARTS, MODEL NUMBER AND SERIAL NUMBER MUST BE SPECIFIED.

<u>REF NO.</u>	<u>PART NO.</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
LL-1	57567	1	Spring Assembly (DH24L, 23L)
	57566	1	" " (DH24R, 23R)
LL-2	40318-3	1	Spring Hub (DH24L & R)
	62452	1	" " (DH23L & R)
LL-3	580-P-120	1	Retaining Ring
LL-4	62451	1	Retaining Washer
LL-5	230-P-161	1	Drive Pin
LL-6	62449	1	Main Shaft
LL-7	1228-P-13	4	Back-up Ring
LL-8	700-P-88	3	O-Ring
LL-9	62472-1	1	Drum Assembly (DH24L)
	62472-2	1	" " (DH23L)
	62477-1	1	" " (DH24R)
	62477-2	1	" " (DH24R)
LL-10	700-P-87	4	O-Rings
LL-11	62482	1	Swivel Adapter
LL-12	101-P-71	2	Lockwasher (M8)
LL-13	31-P-155	2	Bolt (M8 x 1.25 x 35)
LL-14	62450	1	Thrust Washer
LL-15	29-P-130	2	Bolt (M10 x 1.5 x 35) (Soc. Hd. Cap. Sc.)
LL-16	62487	1	Hub Assembly
LL-17	230-P-162	1	Drive Pin
LL-18	101-P-72	6	Lockwasher (M5)
LL-19	151-P-158	6	Nut (M5)
<u>OPTIONAL</u>			
LL-20	M36880009	AR	Fittings (1/2 - 20 J.I.C.)
	688-P-2	AR	Fittings (9/16 - 18 J.I.C.)
	688-P-5	AR	Fittings (3/4 - 18 J.I.C.)
LL-21	M22120003	AR	Mounting Block (MB-1)
GM-23	H73130001	AR	O-Ring Kit (Includes #7,8,10)