

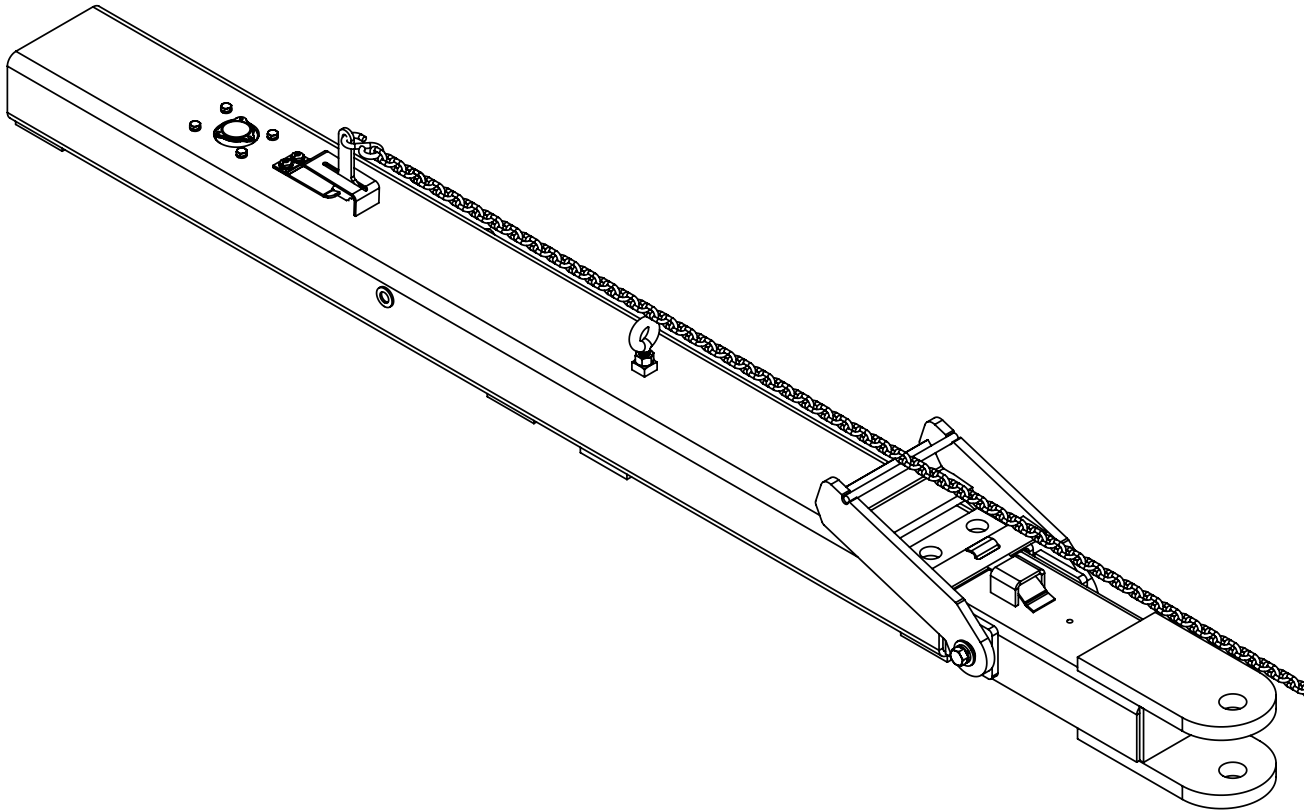


Doing Our Best to Provide You the Best

BH20040, Rev 1
03/16

TONGUE ASSEMBLIES

Brakes & No Brakes



OPERATOR MANUAL

INTRODUCTION

WARRANTY POLICY, OPERATOR MANUALS, PARTS MANUALS & REGISTRATION

Go online to www.demco-products.com to review Demco warranty policies, operator manuals and register your Demco product.



SAFETY...YOU CAN LIVE WITH IT



EQUIPMENT SAFETY GUIDELINES

Every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or you yourself, follow them.

In order to provide a better view, certain illustrations in your owners manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace shield prior to use.

Replace any caution, warning, danger or instruction safety decal that is not readable or is missing.

Do not attempt to operate this equipment under the influence of alcohol or drugs.

Review safety instructions with all users annually.

Operator should be a responsible adult. **DO NOT ALLOW PERSONS TO OPERATE OR ASSEMBLE THIS UNIT UNTIL THEY HAVE DEVELOPED A THOROUGH UNDERSTANDING OF SAFETY PRECAUTIONS AND HOW IT WORKS.**

To prevent injury or death, use a tractor equipped with a roll over protective system (ROPS). Do not paint over, remove, or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice instructions on them.

Never exceed limits of a piece of machinery. If its ability to do a job, or to do so safely is in question **DON'T TRY IT.**

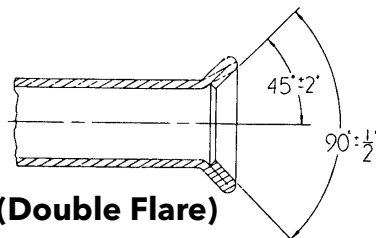
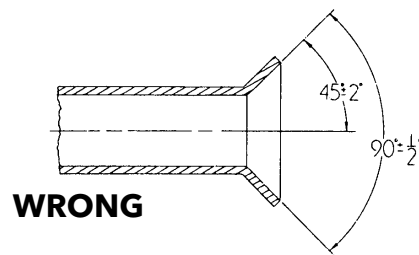


REMEMBER

Your best assurance against accidents is a careful and responsible operator. If there is any portion of this manual or function you do not understand, contact your local authorized dealer or manufacturer.

Brake Line Installation

Use care in forming tubing to avoid sharp bends or kinks. Use double flare steel tubing to assure tight leakproof connections. This must be done by a certified brake shop. Anchor all hydraulic lines at two foot intervals to prevent chafing and vibration. Use hydraulic rubber hose at points of flexing. Anchor hose ends to avoid stress on tubing.



BOLT TORQUE

TORQUE DATA FOR STANDARD NUTS, BOLTS, AND CAPSCREWS.

Tighten all bolts to torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt chart as guide. Replace hardware with same grade bolt.

NOTE: Unless otherwise specified, high-strength Grade 5 hex bolts are used throughout assembly of equipment.



Torque Specifications

Bolt Torque for Standard bolts *

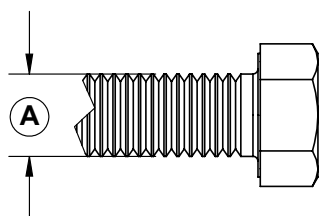
"A"	GRADE 2		GRADE 5		GRADE 8	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
1/4"	6	(8)	9	(12)	12	(16)
5/16"	10	(13)	18	(25)	25	(35)
3/8"	20	(27)	30	(40)	45	(60)
7/16"	30	(40)	50	(70)	80	(110)
1/2"	45	(60)	75	(100)	115	(155)
9/16"	70	(95)	115	(155)	165	(220)
5/8"	95	(130)	150	(200)	225	(300)
3/4"	165	(225)	290	(390)	400	(540)
7/8"	170	(230)	420	(570)	650	(880)
1"	225	(300)	630	(850)	970	(1310)

Bolt Torque for Metric bolts *

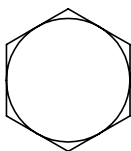
"A"	CLASS 8.8		CLASS 9.8		CLASS 10.9	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
6	9	(13)	10	(14)	13	(17)
7	15	(21)	18	(24)	21	(29)
8	23	(31)	25	(34)	31	(42)
10	45	(61)	50	(68)	61	(83)
12	78	(106)	88	(118)	106	(144)
14	125	(169)	140	(189)	170	(230)
16	194	(263)	216	(293)	263	(357)
18	268	(363)	--	--	364	(493)
20	378	(513)	--	--	515	(689)
22	516	(699)	--	--	702	(952)
24	654	(886)	--	--	890	(1206)

Torque figures indicated are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

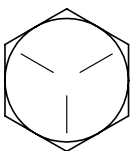
* GRADE or CLASS value for bolts and capscrews are identified by their head markings.



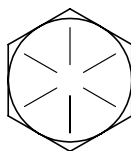
GRADE-2



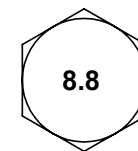
GRADE-5



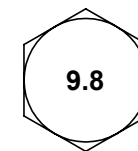
GRADE-8



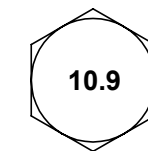
CLASS 8.8



CLASS 9.8



CLASS 10.9



Back plate Installation

Mount the back plate to the spindle flange. In mounting the brake, be sure the hydraulic wheel cylinder is at the top. Brakes are also marked as "RIGHT" and "LEFT". The brake designated as "LEFT" travels on the driver's side of the road.

Brake Adjustment

Before removing the ground stand jacks, adjust the brakes. Uni-servo brakes must be adjusted periodically to assure having brakes when they are applied. Insert a brake adjusting tool or a screwdriver into the slotted hole. With the handle up and the bit down and against the adjusting nut, pull down on the handle. While spinning the wheel, adjust the cog wheel up until you can't rotate the wheel forward. Then back off the adjusting wheel twenty notches.

ALWAYS ROTATE DRUM IN DIRECTION OF FORWARD ROTATION ONLY.

DEMCO BRAKE TONGUE MAINTENANCE AND ADJUSTMENT



WARNING: Review all of the following instructions before installation and use of the hydraulic brake tongue. Dealers or Distributors must review these instructions with the ultimate user. Failure to follow these instructions, or failure to properly maintain the braking system after installation, can result in loss of braking action which could cause severe property damage, personal injury and/or death.

DISASSEMBLY AND ASSEMBLY

1. The brake tongue is assembled and adjusted at the factory:



CAUTION Do Not Disassemble or Attempt to Adjust The Tongue Push-Rod Assembly (#27)

To disassemble 5967 tongue: (refer to illustration on page 5)

- A. Remove 1/2"bolts (#11), remove stop block (#10), and pull male tongue (#34) out of female tongue (#32).
- B. Remove 1/2"bolt (#16), pin (#23), and spacer (#24)
- C. Remove set screw (#12) from adjustment spud (#30b), unthread and remove adjustment spud (#30b).
- D. Remove push-off assembly (#26), pin (#25), two shocks (#36), and two springs (#20).
- E. To remove tongue push-rod assembly (#27), master cylinder (#31), emergency lever (#19), spring (#18), and guide (#14), refer to section a & b of "Servicing the Emergency Lever" on this page.

To reassemble 5967 tongue: (refer to illustration on page 5)

- A. Replace 2 shocks (#36) into yoke (#26), with pin (25).
 - B. Place 2 springs (#20), onto shaft of push-off assembly (#26), and insert shaft into female tongue (#32), through hole in plate.
 - C. Thread adjustment spud (#30b) onto rear threaded portion of push-rod assembly (#26), until the 2 springs (#20) compress to a length of 6-1/2". Install and tighten set screw (#12), using Locktite, into one of the threaded holes of the spud (30b).
 - D. Insert pin (#23) into hole in tongue, through 1 shock (#36), through the spacer (#24), and through the other shock (#36) and tongue. Install and tighten 1/2" bolt, lockwasher, and washer (# 16, 5, 6).
 - E. Install master cylinder (#31), (refer to c-f of "Servicing Emergency Lever" section on this page).
 - F. Thread adjust spud (30a) onto front threaded portion of push-rod assembly (#26). Insert male tongue (#34), (with latch installed as shown), into female tongue (#32). Install stop block (#10), using 1/2" bolts and lockwashers (#5, #11). Pull male tongue (#34) forward to latched position and adjust spud (#30a) until there is a 3/16" gap between spud (#30a) and rear stop surface of male tongue (#34).
 - G. Tighten set screw (#12),using Locktite, into hole in spud (#30a).
2. Connect and tighten all brake lines.
 3. Fill the Master Cylinder (#31) with DOT 3 or 4 brake fluid.

4. Bleed the brake system using a pressure-type brake bleeder or manually, as follows:
 - a. Raise tongue to level or up in front.
 - a. Remove the two Self-Tapping Screws (#13) and LockWashers (#17) that hold the Lever Guide (#14) and the flat Emergency Lever Spring (#18). Remove the Lever Guide and the Emergency Lever Spring. Using short strokes, pull forward on the Emergency Lever (#19), pumping the Master Cylinder until the brake fluid within the Master Cylinder stops bubbling.
 - b. Attach a bleeder hose to the bleeder valve on one of

the wheels (always begin with wheel farthest from the master cylinder and move toward it). Immerse the other end of the hose into a clean, transparent container partially filled with brake fluid. Loosen the bleeder valve one turn and, watching the hose in the transparent container, use the Emergency Lever to pump the Master Cylinder as long as air bubbles continue to leave the hose. When the bubbles stop, close the bleeder valve, move to the next wheel, and repeat the process until all the brakes have been bled. (Note: Check the fluid level in the Master Cylinder frequently while bleeding the brakes (every 4 or 5 strokes). Refill as necessary to keep the level above half full.)

5. Once bleeding is completed, refill the Master Cylinder and attach the Cap (#15) securely. Replace Emergency Lever Spring, Lever Guide, with Lock Washers and Self-Tapping Screws.
6. Test the brakes by pulling the Emergency Lever (#19) forward until it locks into position (the lever should be approximately straight up.) Attempt to rotate the wheels in a forward direction. If any of the wheels rotate, the brakes must be adjusted on that wheel. To adjust the brakes, release the Emergency Lever from its locked position and set the wheel brake adjustment up 2 or 3 notches. Repeat the test procedure as necessary.

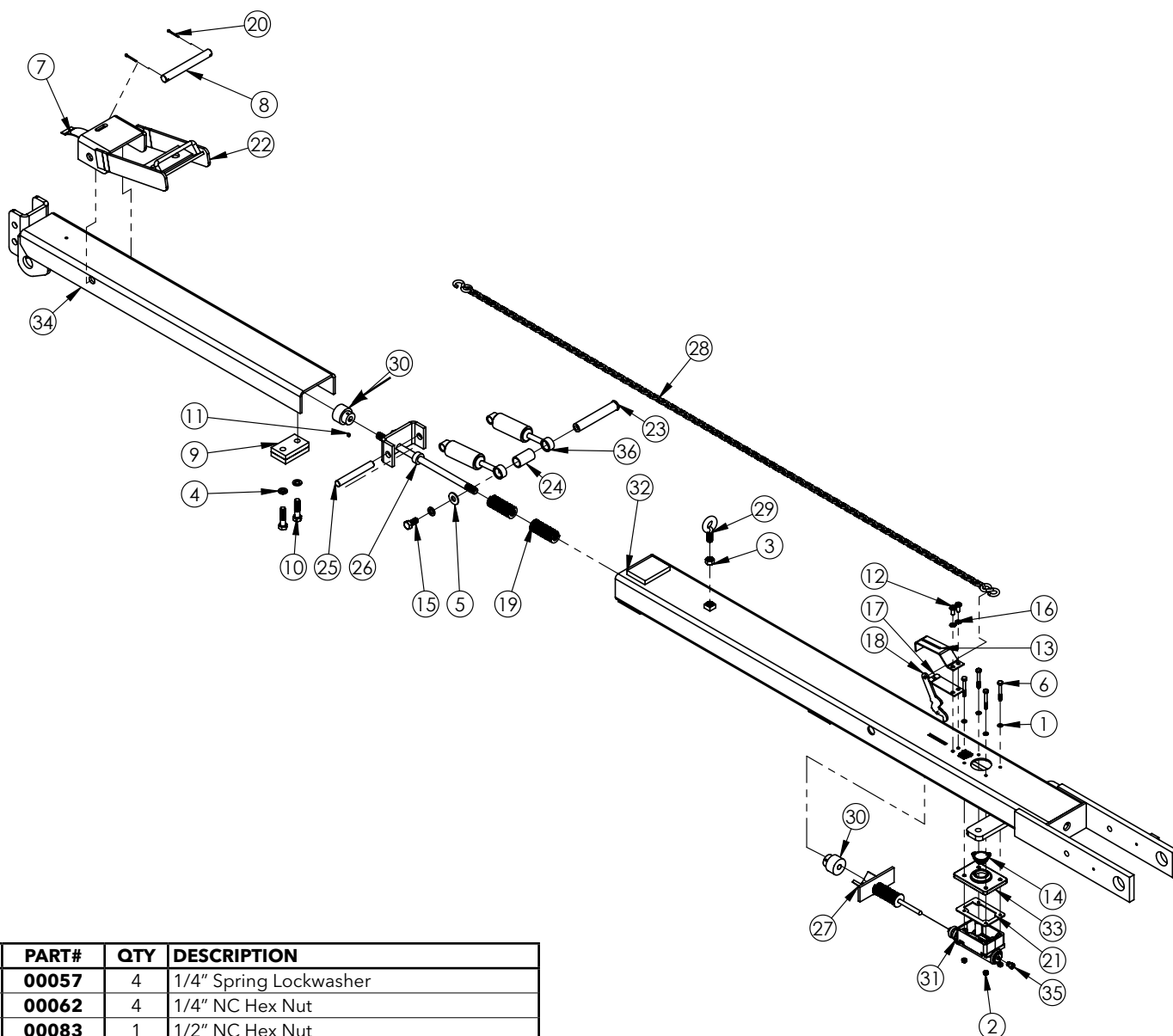
MAINTENANCE

1. Frequently check the brake fluid level. (Fluid must be approved, clean and uncontaminated.)
2. Inspect the brake tongue and brakes and replace bent, worn or damaged parts.
3. Be constantly aware of the system's braking quality and make periodic checks. Consult a certified brake specialist to make the necessary adjustments and/or repairs. Failure to do so could result in loss of braking.

SERVICING THE EMERGENCY LEVER

If the Emergency Lever (#19) of the tongue is applied, it can be disengaged by using a screwdriver to lift upward on the front of the flat Emergency Lever Spring (#18) while pulling the lever forward until it releases. A thorough inspection of the Emergency Lever, Emergency Lever Spring, and the Chain with S-Hooks is required and all damaged parts must be replaced as follows:

- a. Remove the Master Cylinder (#31) and the Push Plate Assembly (#27). Be careful not to get dirt into the Master Cylinder. (A new Master Cylinder Gasket (#21) should be used when reinstalling.)
- b. Remove the Safety Chain from the Emergency Lever (#19), Emergency Lever Guide (#14), and flat Emergency Lever Spring (#18), then pull the lever out of the tongue (#32) from the bottom.
- c. Install the new Emergency Lever from the bottom of, and up through the slot in, the tongue. Attach the new Emergency Lever Spring, and the Emergency Lever Guide.
- d. Install a new Master Cylinder Gasket to the Master Cylinder and put the Push Plate Assembly and Master Cylinder back into the inside of the tongue.
- e. Squeeze shut the S-Hook of the Emergency Chain (#28) onto the Emergency Lever (#19).
- f. Add adequate brake fluid to the Master Cylinder and bleed the brake system per instructions 4-6 in the disassembly and reassembly section.



REF #	PART#	QTY	DESCRIPTION
1	00057	4	1/4" Spring Lockwasher
2	00062	4	1/4" NC Hex Nut
3	00083	1	1/2" NC Hex Nut
4	00084	3	1/2" Lockwasher
5	00085	1	1/2" Flatwasher
6	00618	4	1/4"NC x 2" Gr.5 Hex Head Bolt
7	01158-95	1	Tongue Latch Spring
8	01159	1	3/4" x 6-3/8" Hitch Pin
9	01160	1	Tongue Stop Block Assembly
10	01253	2	1/2" NC x 2" Gr.5 Hex Head Bolt
11	01923	2	1/4" NC x 1/4" Socket Cup Point Set Screw
12	02196	2	5/16" Self Tapping Screw
13	03866-95	1	Emergency Lever Guide
14	03876	1	Master Cylinder Cap Assembly
15	04795	1	1/2" NC x 1" Gr.5 Hex Head Bolt
16	05424	2	5/16" External Tooth Lockwasher
17	05693-95	1	Safety Lever Spring
18	05951	1	Emergency Lever
19	05952	2	Spring Push Rod
20	07876	2	1/8" x 1-1/4" Cotter Pin
21	09153	1	Cork Gasket f/Master Cylinder
22	09297-30	1	Tongue Latch
23	09301	1	Rear Shock Pin
24	09302	1	Rear Shock Pin Spacer

25	09303	1	Front Shock Pin
26	09304	1	Push Off
27	09306	1	Push Plate Assembly
28	09309	1	Chain/Hook Assembly
29	09317	1	1/2" NC x 2" Eye Bolt
30	09337	2	Adjustment Spud
31	10616	1	Master Cylinder Composite Drum
32	10747	1	Female Tongue
33	12557	1	Cap f/Master Cylinder
34	13990	1	Male Tongue
35	SB12098	1	Brake Fitting .016 Orifice
36	SB12426	2	Damper Shock



DEMCO BRAKE TONGUE MAINTENANCE AND ADJUSTMENT

WARNING Review all of the following instructions before installation and use of the hydraulic brake tongue. Dealers or Distributors must review these instructions with the ultimate user. Failure to follow these instructions, or failure to properly maintain the braking system after installation, can result in loss of braking action which could cause severe property damage, personal injury and/or death.

DISASSEMBLY AND ASSEMBLY

1. The brake tongue is assembled and adjusted at the factory:



CAUTION Do Not Disassemble or Attempt to Adjust The Tongue Push-Rod Assembly (#27)

To disassemble 5597 tongue: (refer to illustration on page 7)

- A. Remove 3/4" bolts (#16), remove stop block (#28), and pull male tongue (#25) out of female tongue (#35).
- B. Remove 1/2" bolt (#15), pin (#33), and spacer (#31)
- C. Remove set screw (#11) from adjustment spud (#34B), unthread and remove adjustment spud (#34B).
- D. Remove push-off assembly (#26), pin (#32), two shocks (#38), and two springs (#21).
- E. To remove tongue push-rod assembly (#27), master cylinder (#36), emergency lever (#20), spring (#19), and guide (#13), refer to section a & b of "Servicing the Emergency Lever" on this page.

To reassemble 5597 tongue: (refer to illustration on page 7)

- A. Replace 2 shocks (#38) into yoke (#26), with pin (#32).
 - B. Place 2 springs (#21), onto shaft of push-off assembly (#26), and insert shaft into female tongue (#35), through hole in plate.
 - C. Thread adjustment spud (34B) onto rear threaded portion of push-rod assembly (#26), until the 2 springs (#21) compress to a length of 6-1/2". Install and tighten set screw (#11), using Locktite, into one of the threaded holes of the spud (34B).
 - D. Insert pin (#33) into hole in tongue, through 1 shock (#38), through the spacer (#31), and through the other shock (#38) and tongue. Install and tighten 1/2" bolt, lockwasher, and washer (#15, 5, 6).
 - E. Install master cylinder (#36), (refer to c-f of "Servicing Emergency Lever" section on this page).
 - F. Thread adjust spud (34A) onto front threaded portion of push-rod assembly (#26). Insert male tongue (#25), (with latch installed as shown), into female tongue (#35). Install stop block (#28), using 3/4" bolts and lockwashers (#16, #7). Pull male tongue (#25) forward to latched position and adjust spud (34A) until there is a 3/16" gap between spud (34A) and rear stop surface of male tongue (#25).
 - G. Tighten set screw (#11), using Locktite, into hole in spud (34A).
2. Connect and tighten all brake lines.
 3. Fill the Master Cylinder (#36) with DOT 3 or 4 brake fluid.
 4. Bleed the brake system using a pressure-type brake bleeder or manually, as follows:
 - a. Raise tongue to level or up in front.
 - a. Remove the two Self-Tapping Screws (#12) and LockWashers (#17) that hold the Lever Guide (#13) and the flat Emergency Lever Spring (#19). Remove the Lever Guide and the Emergency Lever Spring. Using short strokes, pull forward on the Emergency Lever (#20), pumping the Master Cylinder until the brake fluid within the Master Cylinder stops bubbling.
 - b. Attach a bleeder hose to the bleeder valve on one of

the wheels (always begin with wheel farthest from the master cylinder and move toward it). Immerse the other end of the hose into a clean, transparent container partially filled with brake fluid. Loosen the bleeder valve one turn and, watching the hose in the transparent container, use the Emergency Lever to pump the Master Cylinder as long as air bubbles continue to leave the hose. When the bubbles stop, close the bleeder valve, move to the next wheel, and repeat the process until all the brakes have been bled. (Note: Check the fluid level in the Master Cylinder frequently while bleeding the brakes (every 4 or 5 strokes). Refill as necessary to keep the level above half full.)

5. Once bleeding is completed, refill the Master Cylinder and attach the Cap (#14) securely. Replace Emergency Lever Spring, Lever Guide, with Lock Washers and Self-Tapping Screws.
6. Test the brakes by pulling the Emergency Lever (#20) forward until it locks into position. (The lever should be approximately straight up.) Attempt to rotate the wheels in a forward direction. If any of the wheels rotate, the brakes must be adjusted on that wheel. To adjust the brakes, release the Emergency Lever from its locked position and set the wheel brake adjustment up 2 or 3 notches. Repeat the test procedure as necessary.

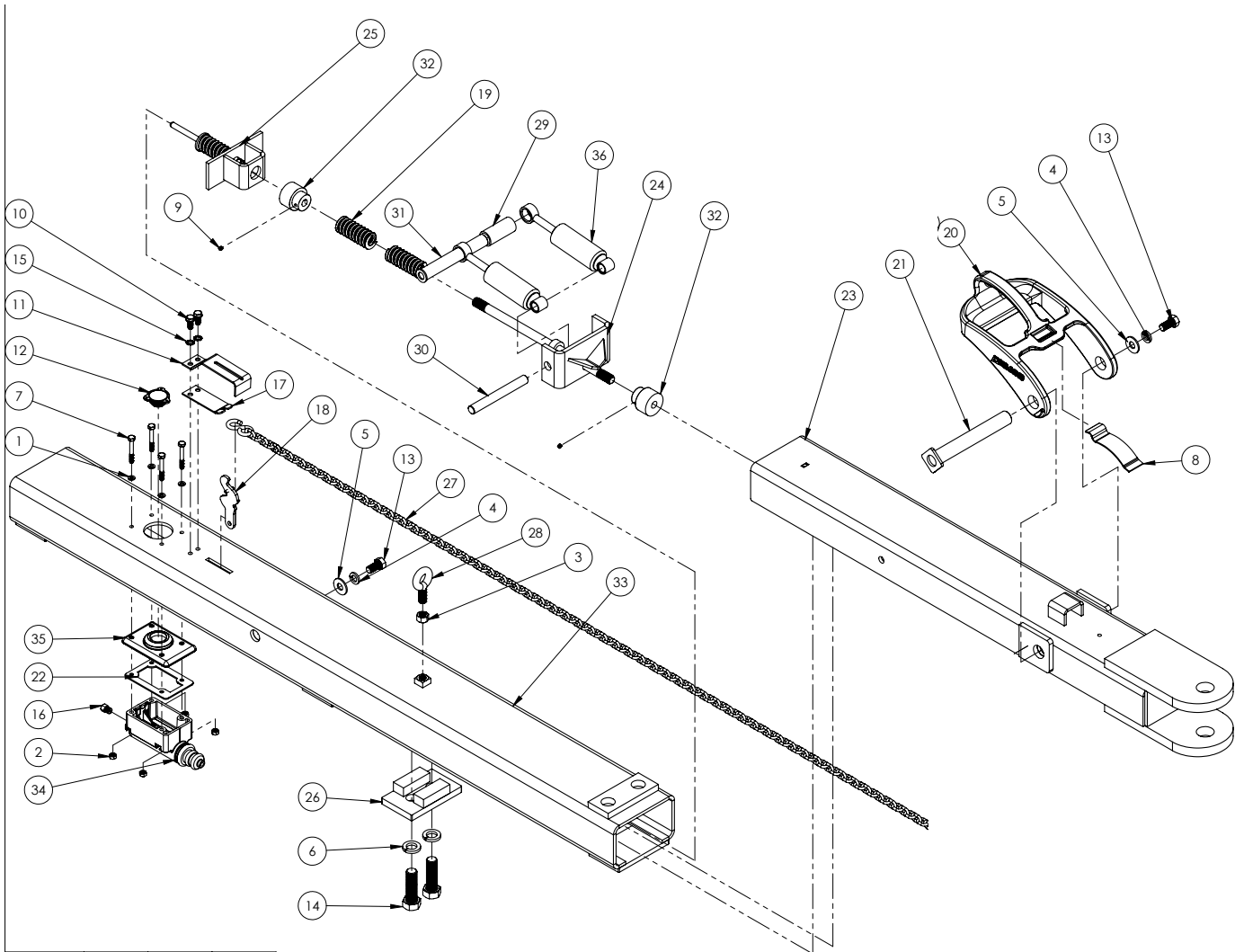
MAINTENANCE

1. Frequently check the brake fluid level. (Fluid must be approved, clean and uncontaminated.)
2. Inspect the brake tongue and brakes and replace bent, worn or damaged parts.
3. Be constantly aware of the system's braking quality and make periodic checks. Consult a certified brake specialist to make the necessary adjustments and/or repairs. Failure to do so could result in loss of braking.

SERVICING THE EMERGENCY LEVER

If the Emergency Lever (#20) of the tongue is applied, it can be disengaged by using a screwdriver to lift upward on the front of the flat Emergency Lever Spring (#19) while pulling the lever forward until it releases. A thorough inspection of the Emergency Lever, Emergency Lever Spring, and the Chain with S-Hooks is required and all damaged parts must be replaced as follows:

- a. Remove the Master Cylinder (#24) and the Push Plate Assembly (#27). Be careful not to get dirt into the Master Cylinder. (A new Master Cylinder Gasket (#24) should be used when reinstalling.)
- b. Remove the Safety Chain from the Emergency Lever (#20), Emergency Lever Guide (#13), and flat Emergency Lever Spring (#19), then pull the lever out of the tongue (#35) from the bottom.
- c. Install the new Emergency Lever from the bottom of, and up through the slot in, the tongue. Attach the new Emergency Lever Spring, and the Emergency Lever Guide.
- d. Install a new Master Cylinder Gasket to the Master Cylinder and put the Push Plate Assembly and Master Cylinder back into the inside of the tongue.
- e. Squeeze shut the S-Hook of the Emergency Chain (#14) onto the Emergency Lever (#20).
- f. Add adequate brake fluid to the Master Cylinder and bleed the brake system per instructions 4-6 in the disassembly and reassembly section.



REF #	PART#	QTY	DESCRIPTION
1.	00036	1	5/16" Spring Lockwasher
2.	00057	4	1/4" Spring Lockwasher
3.	00062	4	1/4" NC Hex Nut
4.	00083	1	1/2" NC Hex Nut
5.	00084	2	1/2" Lockwasher
6.	00085	2	1/2" Flatwasher
7.	00254	2	3/4" Lockwasher
8.	00618	4	1/4"NC x 2" Gr.5 Hex Head Bolt
9.	01158-95	1	Tongue Latch Spring
10.	01263	1	5/16" x 3/4" Gr.5 Bolt
11.	01923	2	1/4"-20UNC x 1/4" Socket Head Set Screw
12.	02196	2	5/16" Self Tapping Screw
13.	03866-95	1	Emergency Lever Guide
14.	03876	1	Master Cylinder Cap Assembly
15.	04795	2	1/2"NC x 1" Gr.5 Hex Head Bolt
16.	05047	2	3/4"NC x 2-1/2" Gr.5 Hex Bolt
17.	05424	2	5/16" External Tooth Lockwasher
18.	05679	1	Brake Fitting 1/8" Full Flow
19.	05693-95	1	Safety Lever Spring
20.	05951	1	Emergency Lever
21.	05952	2	Spring Push Rod
22.	15920-30	1	Tongue Latch
23.	07521-95	1	Latch Pin
24.	09153	1	Cork Gasket f/Master Cylinder

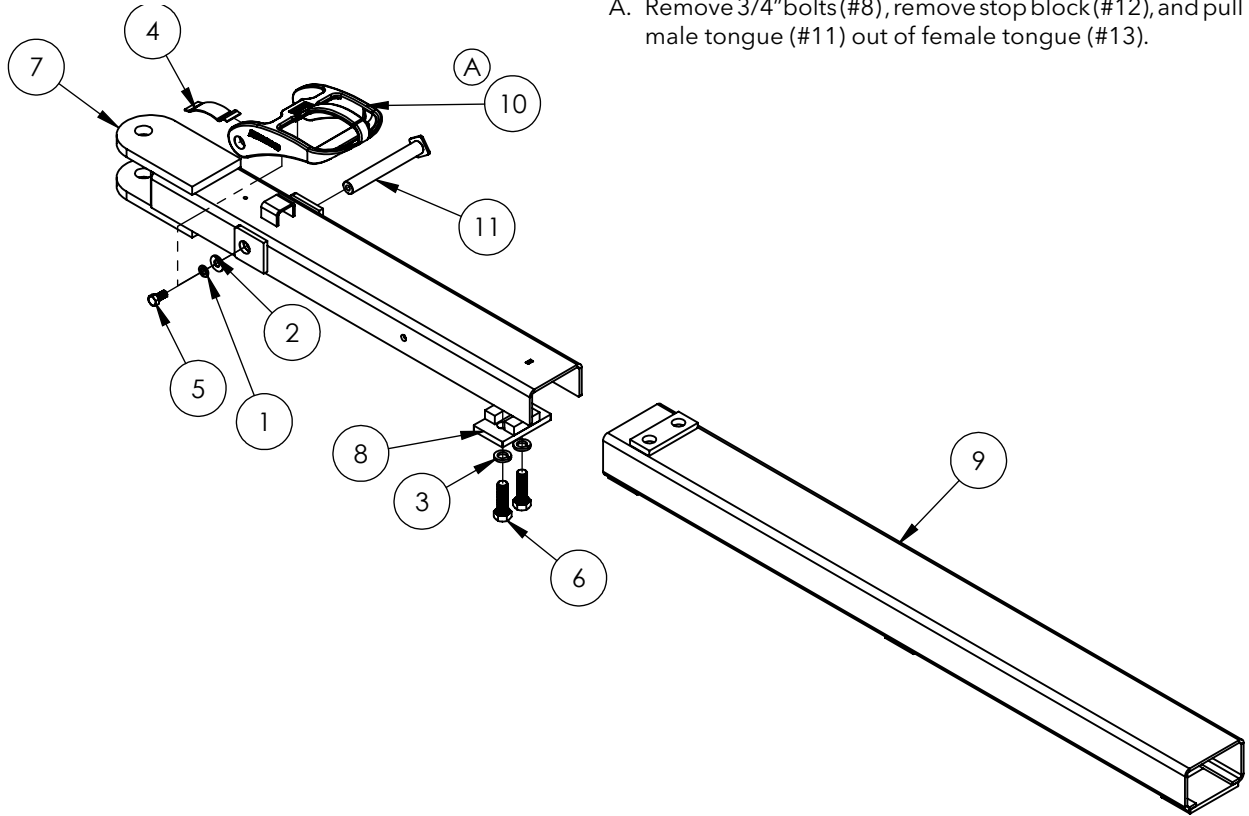
25.	09293	1	Male Tongue
26.	09305	1	Push Off Assembly
27.	09307-81	1	Push Plate Assembly
28.	09308-30	1	Stop Block f/Brake Tongue
29.	09309	1	72" Actuator Chain/Hook Assembly
30.	09317	1	1/2" NC x 2" Eye Bolt
31.	09323-95	1	Rear Shock Pin Spacer
32.	09324-95	1	Front Shock Pin
33.	09325-95	1	Rear Shock Pin
34.	09337-95	2	Adjustment Spud
35.	10050	1	Female Tongue Hitch
36.	10616	1	Master Cylinder Composite Drum
37.	12557	1	Cap f/Master Cylinder
38.	SB12426	2	Damper Shock

DISASSEMBLY AND ASSEMBLY

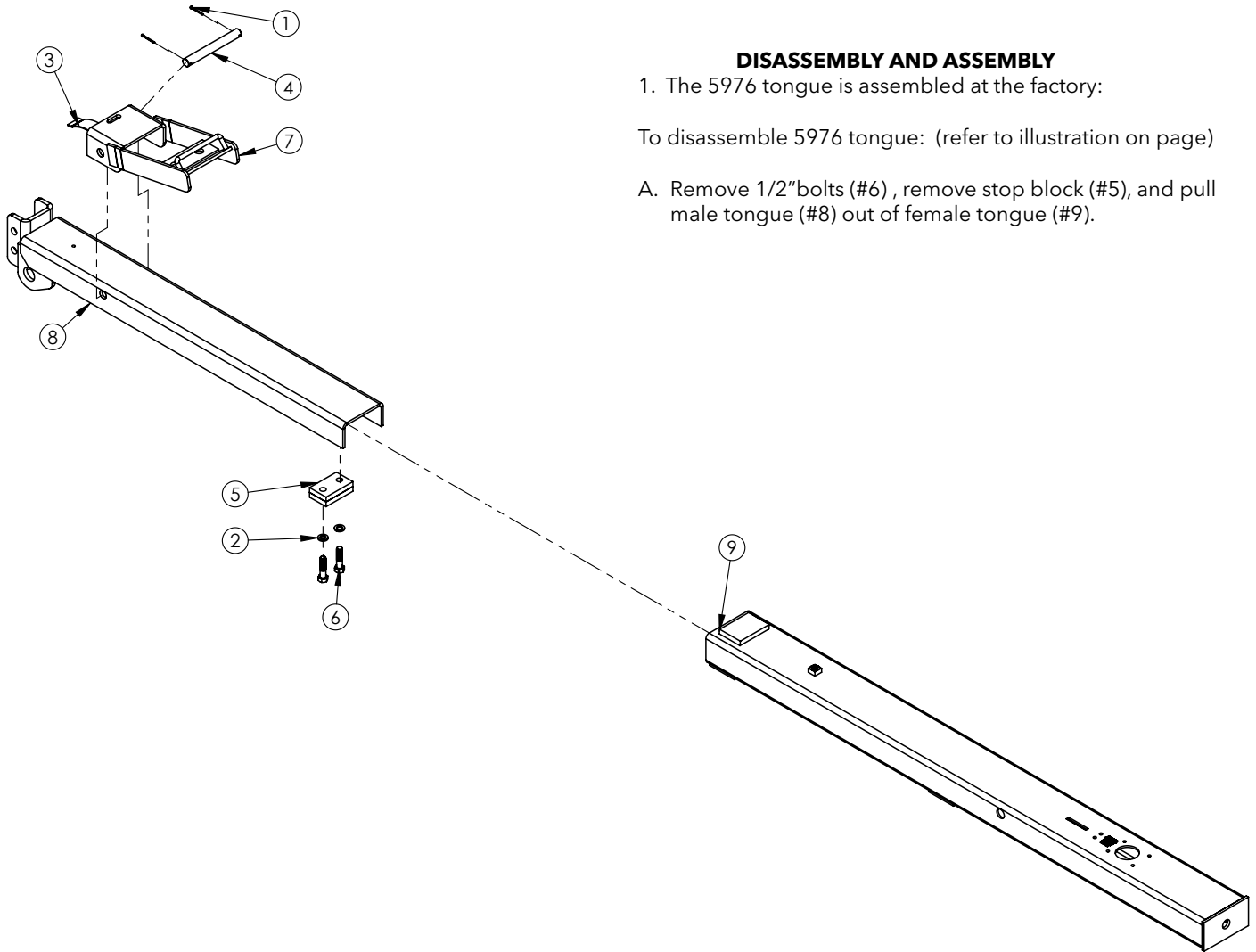
1. The 5730 tongue is assembled at the factory:

To disassemble 5730 tongue: (refer to illustration on page)

A. Remove 3/4" bolts (#8), remove stop block (#12), and pull male tongue (#11) out of female tongue (#13).



REF #	PART#	QTY	DESCRIPTION
1.	00036	1	5/16" Spring Lockwasher
2.	00084	1	1/2" Lockwasher
3.	00085	1	1/2" Flatwasher
4.	00254	2	3/4" Lockwasher
5.	01158-95	1	Tongue Latch Spring
6.	01263	1	5/16" x 3/4" Gr.5 Bolt
7.	04795	1	1/2"NC x 1" Gr.5 Hex Head Bolt
8.	05047	2	3/4"NC x 2-1/2" Gr.5 Hex Bolt
9.	07517-30	1	Tongue Latch
10.	07521-95	1	Latch Pin
11.	09293	1	Male Tongue
12.	09308-30	1	Stop Block f/Male Tongue
13.	11555	1	Female Tongue w/o Brakes



DISASSEMBLY AND ASSEMBLY

1. The 5976 tongue is assembled at the factory:

To disassemble 5976 tongue: (refer to illustration on page)

A. Remove 1/2" bolts (#6) , remove stop block (#5), and pull male tongue (#8) out of female tongue (#9).

REF #	PART#	QTY	DESCRIPTION
1.	07876	2	1/8" x 1-1/4" Cotter Pin
2.	00084	2	1/2" Lockwasher
3.	01158-95	1	Tongue Latch Spring
4.	01159-95	1	3/4" x 6-3/8" Hitch Pin
5.	01160	1	Tongue Stop Block Assembly
6.	01253	2	1/2"NC x 2" Gr.5 Hex Head Bolt
7.	09297-30	1	Tongue Latch
8.	13990	1	Male Tongue
9.	14094	1	Female Tongue



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**Demco warranty policies, operator manuals, and product registration
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www.demco-products.com

