

HWH CORPORATION
HYDRAULIC HOSE / FITTINGS / SWAGING GUIDE
(CURRENT MAY 2019) (PAGE 1 OF 4)

The current swaging tools, will have TS44701 or TS52658 stamped into the side of the swaging tool. SEE MI95400G
 The current die sets have the HWH part number engraved into the top of each half of the die set.

IMPORTANT: DO NOT use die sets that are not engraved with the HWH part number with a reconditioned swaging tool. Use of non-engraved die sets can permanently damage the swaging tool. This can result in leaking hose ends.

IMPORTANT: DO NOT use ANY swaging equipment that is not marked with an HWH part number. Use of non-current swaging equipment can result in improper swaging of hose ends. This will result in leaking hose ends.

- STEP 1.** Read the printing on the hose cover to determine which of the following hoses you have.
STEP 2. Select the required hose end.
STEP 3. Select the required Die and Pusher.

Refer to MI95.400F for complete swaging instructions.

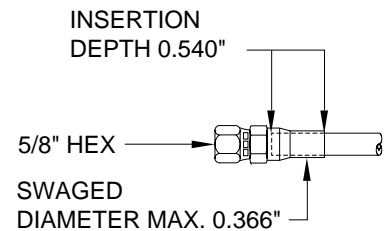
HWH 1/8" HOSE (02 HOSE)

Print on hose: "HWH CORP. 02"

	HOSE END 7/16-20 FM	DIE	PUSHER
HWH Part Number	R93784 (Package of 5)	TS59960	TS59959

To order hose use part number R93785 for a 50FT ROLL

**NOTE: For hose labeled "Parker Parflex PDH-2" or "Parker Parflex 540N-2 see:
 "PARKER HOSE 1/8" on the next page.**

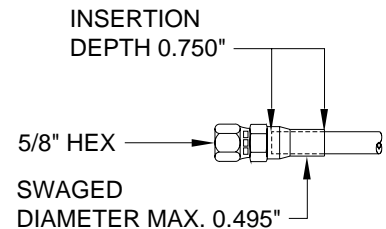


HWH 3/16" HOSE(03 Hose)

Print on hose: "HWH CORP. 03"

	HOSE END 7/16-20 FM	DIE	PUSHER
HWH Part Number	R93394 (Package of 5)	TS51677	TS52707

To order hose use part number R93395 for a 100FT ROLL



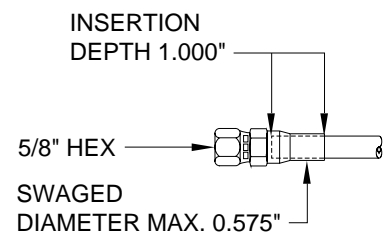
HWH 1/4" HOSE (04 Hose)

Print on hose: "HWH CORP. 04"

	HOSE END 7/16-20 FM	DIE	PUSHER
HWH Part Number	R93392 (Package of 5)	TS44675	TS52707
	RFH3338 (Package of 20)		

To order hose use part number R7313 for a 100FT ROLL
 R5233 for a 250FT ROLL

	HOSE END 7/16-20 Male	DIE	PUSHER
HWH Part Number	R93502 (Package of 5)	TS44675	TS51685



	HOSE END 1/2-20 FM	DIE	PUSHER
HWH Part Number	RFH92471 (Package of 5)	TS44675	TS5050

HWH CORPORATION

HYDRAULIC HOSE / FITTINGS / SWAGING GUIDE

(PAGE 2 OF 4)

The current swaging tools, will have TS44701 or TS52658 stamped into the side of the swaging tool. SEE MI95400G
 The current die sets have the HWH part number engraved into the top of each half of the die set.

IMPORTANT: DO NOT use die sets that are not engraved with the HWH part number with a reconditioned swaging tool. Use of non-engraved die sets can permanently damage the swaging tool. This can result in leaking hose ends.

IMPORTANT: DO NOT use ANY swaging equipment that is not marked with an HWH part number. Use of non-current swaging equipment can result in improper swaging of hose ends. This will result in leaking hose ends.

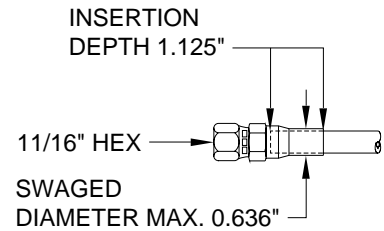
- STEP 1.** Read the printing on the hose cover to determine which of the following hoses you have.
- STEP 2.** Select the required hose end.
- STEP 3.** Select the required Die and Pusher.

Refer to MI95.400F for complete swaging instructions.

HWH 5/16" HOSE (05 Hose)

Print on hose: "HWH CORP. 05"

	HOSE END 1/2-20 FM	DIE	PUSHER
HWH Part Number	RFH93504 (Package of 5)	TS45036	TS5050



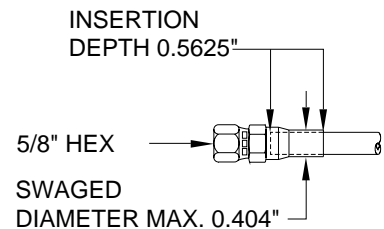
To order hose use part number R6357 for a 100FT ROLL

PARKER HOSE: 1/8"

Print on Hose: "Parker Parflex PDH-2 1/8 6000 PSI WP - USE 58 SERIES FITTINGS"
 Print on Hose: "Parker Parflex 540N-2 1/8 WP 2500 PSI - USE 55 SERIES FITTINGS"

These Parker hoses and hose ends are no longer production items. The Parker 1/8" hoses can be replaced with hose assemblies labeled with print on hose "HWH CORP 02". The HWH CORP 02 hose ends and swaging equipment CAN NOT be used with either of the Parker 1/8" hoses. Limited quantities of the Parker Parflex PDH-2 hose and hose ends may be available. Contact HWH Technical Service for assistance with repairing or replacing the Parker 1/8" hoses.

DIE	PUSHER
TS51677	TS52707



HWH CORPORATION

HOSE SWAGING AND REPAIR INSTRUCTIONS

(PAGE 3 OF 4)

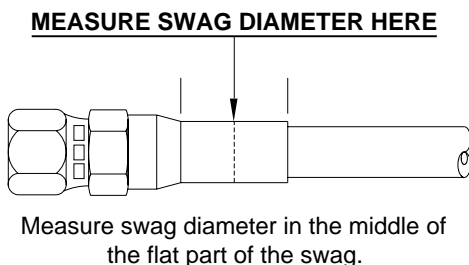
These instructions must be followed carefully to assure quality hose swaging and repair. Failure to follow these instructions will result in swaging failures causing leaks and unnecessary replacement of hoses or hose ends.

IMPORTANT: Refer to ML24976/MI95.400A & B for swaging tool information. **DO NOT USE A SWAGING TOOL OR DIE SET THAT IS NOT APPROPRIATELY STAMPED. DO NOT USE A DIE SET WITHOUT THE HWH PART NUMBER STAMP IN A SWAGING TOOL WITH THE HWH PART NUMBER STAMP.**

IMPORTANT: Before swaging a hose end the swaging equipment should be checked. Look for nicks or dents on the die mating surfaces and where the die seats in the swaging tool. Any deformations in these areas could cause the dies to not fit together properly during the swaging procedure. Check the die for galling in the area that the hose end is pushed into. Any damaged die or swaging tool should be replaced or fixed before being used. Using damaged equipment will result in improperly swaged hose ends and leaks.

1. Refer to the HOSE / FITTINGS / SWAGING GUIDE sheet, number ML24976/MI95.400A & B, for information which is important when making or repairing a hose. HWH uses several styles and sizes of hydraulic hose. It is important to match the correct hose end with the hose being used. Also the Die and Pusher must be matched to the hose and hose end.

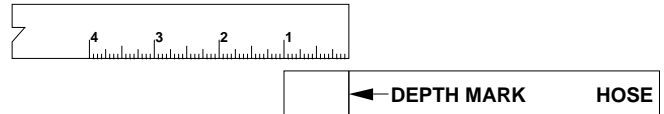
IMPORTANT: ML24976 contains measurements for a finished swag. If a hose end is leaking between the fitting and hose, check the swaged diameter. If the swag is within the tolerance given, **DO NOT** swag on a new end. The complete hose should be replaced. **IF SWAGING A NEW END ON A HOSE, IT IS IMPORTANT TO MEASURE THE FINISHED SWAG TO MAKE SURE IT IS WITHIN THE TOLERANCE GIVEN FOR THAT HOSE END.** A dial caliper or electronic digital caliper is best for checking this measurement. If the swag is larger than acceptable, turn the swag 90° from the original swag position (refer to the swag line on the fitting) and reswag the end. If the new swaged end is not within the tolerance, the complete hose should be replaced.



2. The hose should be cut with a sharp hose or tubing cutter. The cut should be a flat 90 Degree cut. Hose cut at an angle may cause leaks.

3. PROPER INSERTION DEPTH MUST BE MAINTAINED

Use a tape measure or ruler to mark the proper insertion depth on the hose. A gray marking pen works best. Refer to ML26976/MI95.400A & B for proper insertion depths.



When the swag is complete, the insertion depth mark should be no more than 1/16" from the end of the hose end. If inserted too far or too shallow, the end must be replaced.

4. Make sure the swaging equipment, the new hose end, and the hose are clean. Coat the angular surface of the die set with very light coat of NEVER-SEEZ before installing the die set into the swaging tool. Coat the outside of the hose end before swaging. The die and hose end will gull if NEVER-SEEZ is not used. If NEVER-SEEZ is not available, use a heavy duty gear lube.

5. Set the dies in the swaging tool and lock in place with the dogs or spring wire keepers. It is OK if the dogs do not fit tightly against the dies. Feed the hose through the die and insert the hose into the hose end. Make sure the mark on the hose is within 1/16" of the hose end. It is allowable to insert the hose with the hose end inserted through the swaging tool bowl and then install the die halves into the swaging tool.

NOTE: When repairing a hose with oil in it be careful to not point the hose down into the hose end. This could let oil fill the hose end causing a swaging problem and a leak.

6. Run the pusher down to the hose end. Make sure the hose end is seated in the pusher. Make sure the hose end is not tilted to one side of the pusher. **Turn the swaging tool handle until the face of the pusher fully contacts the top face of the dies.** Take care that the hose does not pull out of the hose end as the swag is started. This must be checked when the swag is complete.

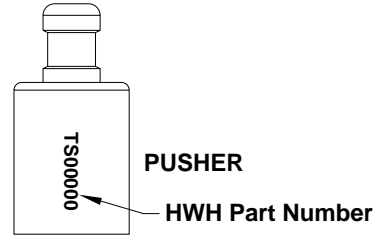
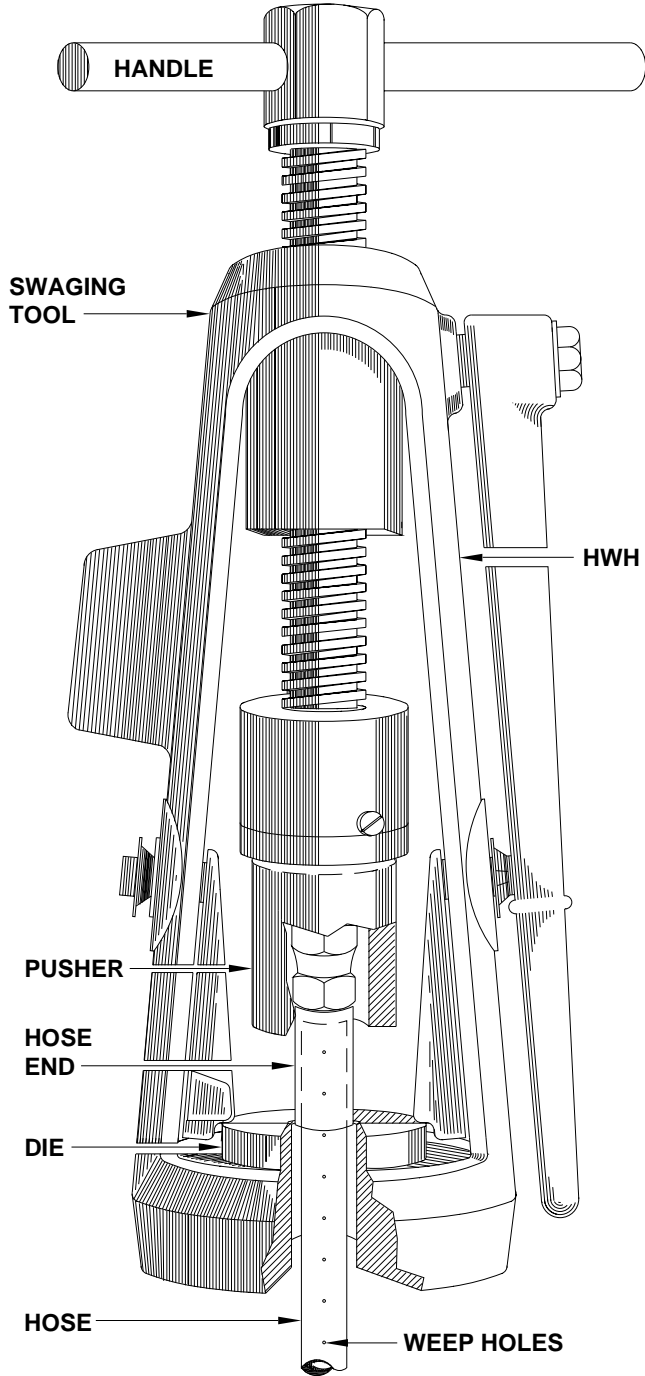
DO NOT USE AN IMPACT WRENCH TO TURN THE SWAGING TOOL.

7. **TO properly tighten the hose onto a fitting,** make the hose end snug (finger tight) on the fitting. Using the proper wrench, tighten the hose end 2 flats (1/3 turn) **NO MORE.**

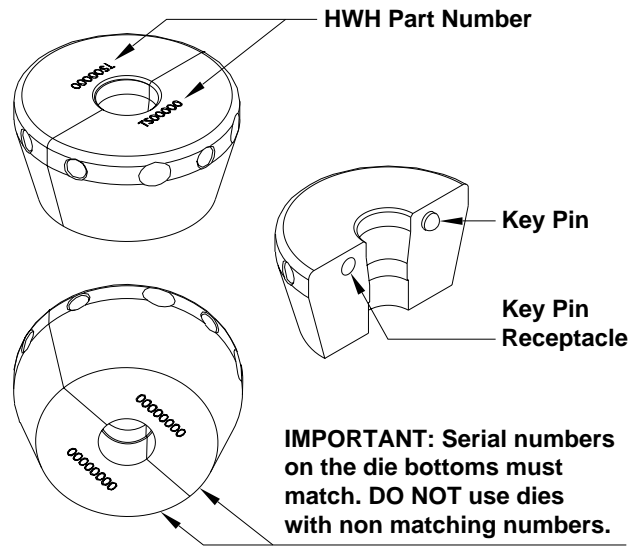
IMPORTANT: A hose that is repaired due to a hose end leak may have residual oil trapped between the inner core and the outer covering. The outer hose cover has weep holes in it. Any residual oil can seep from these weep holes as the hose is pressurized. This seepage may continue for some time after the repair. **It is important to wipe the hose several times and inform the customer of this possibility. THIS IS NOT A LEAKY HOSE END.** However, if the hose continuously drips fluid a problem is indicated.

HWH CORPORATION
HOSE SWAGING AND REPAIR INSTRUCTIONS
(PAGE 4 OF 4)

NOTE: The TS44701 swaging tool is shown. The TS52658 swaging tool looks similar but has spring wire keepers instead of dogs to hold the die in place.



TS59954 - For 1/8" Hose Ends
TS52707 - For 3/16" Hose Ends
TS52707 - For 1/4" Hose Ends



IMPORTANT: Serial numbers on the die bottoms must match. **DO NOT** use dies with non matching numbers.

DIE SETS
TS59960 - For 1/8" Hose Ends
TS51677 - For 3/16" Hose Ends
TS44675 - For 1/4" Hose Ends

NOTE: Swaging tools, pushers and dies must be marked with HWH Part Numbers. **DO NOT** use unmarked parts.

IMPORTANT: THE ANGULAR SURFACE OF THE DIES IS NOT PLATED. ANY RUST OR CORROSION ON THIS SURFACE WILL INTERFERE WITH THE PROPER SWAGING OF THE HOSE END. IT IS SUGGESTED TO OIL THE MATING AND ANGULAR SURFACE OF EACH DIE AFTER USING TO PREVENT CORROSION. THOROUGHLY CLEAN EACH DIE BEFORE USING.