



**AMERICAN**  
Sewer Parts & Cleaning

# BRUTUS

## HEAVY DUTY PORTABLE SWAGE MACHINE OPERATIONAL MANUAL



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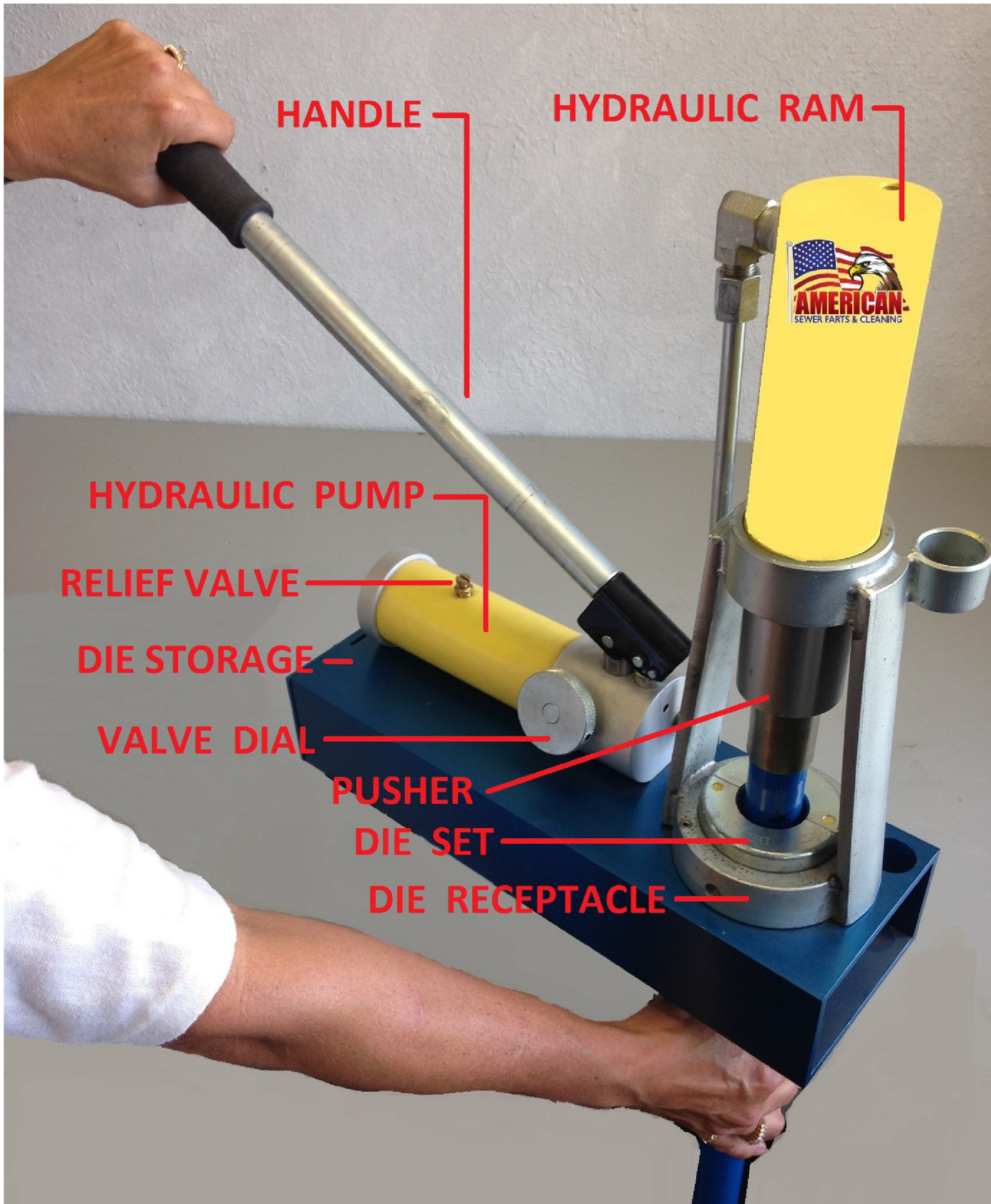
### \*\*\* WARNING \*\*\*

**ALWAYS WEAR APPROPRIATE PROTECTIVE EQUIPMENT WHEN  
USING AND SERVICING SEWER CLEANING EQUIPMENT**





# COMPONENT IDENTIFICATION



**\*\*\* WARNING \*\*\***



- **HIGH PRESSURE WATER IS UTILIZED IN SEWER CLEANING APPLICATIONS.**
- **SEWER CLEANING HOSE IS DESIGNED FOR WATER USE ONLY.**

The Hydraulic Swage Machine is approved for use on Thermoplastic Sewer Cleaning Hose.

Sewer cleaning hose can be swaged using this machine, contingent upon use of proper dies, pushers and adaptors.

All sewer hose and repair fitting tools are manufactured to the National Solid Waste Management Association (formally WEMI) standards. To protect against PERSONAL INJURY OR DEATH, inspect and repair sewer hose only pursuant to and in compliance with NSWMA standards.

When swaging sewer cleaning hose, the hose, the swage and crimp equipment, including dies and fittings, MUST be of the same manufacturer. The use of end fittings and assembly tooling other than that supplied or recommended by the manufacturer is at the sole risk and liability of the user and voids all warranties.

**FAILURE TO COMPLY WITH THE ABOVE RESTRICTIONS MAY RESULT IN HOSE BURST OR FAILURE WHICH MAY LEAD TO PROPERTY DAMAGE, SERIOUS INJURY OR DEATH!**

Thermoplastic sewer cleaning hose has been designed to meet the harsh environmental conditions found in high pressure sewer cleaning applications. The National Solid Waste Management Association (Formally WEMI) call for sewer cleaning hose standardization, for colored-coded, standardized, hose, fittings and repair equipment.

**Thermoplastic Sewer Cleaning Hose is identified by the following:**

- Yellow inner tube is manufactured by Piranha® Hose Products.
- Grey or Red inner tube is manufactured by Parker Hannifin Co.
- Blue inner tube is manufactured by Eaton Aeroquip® Co.
- Purple inner tube is manufactured by Schieffer Co. International.
- Cream inner tube is manufactured by Unisource® (Poly-Flow).
- Orange inner tube is manufactured by DYNA FLEX Inc.

**The outer cover of the hose is a standardized color for the following PSI rating:**

- Orange Color: 2500 PSI
- Blue Color: 3000 PSI
- Green Color: 4000 PSI
- Black Color: 4000 PSI - High Burst
- Red Color: 5000 PSI

End fittings and menders for thermoplastic hose are not interchangeable. It is essential that hose, end fittings, menders, and tooling be properly matched. Identification of Hose Products are simple and easy. The inner tube of all Sewer Cleaning Hose is assigned by WASTEC (Waste Equipment Technology Association) for the manufacture identification code. To assure proper matching of all components, the hose tube material, end fittings, menders, and tooling must be color coded.



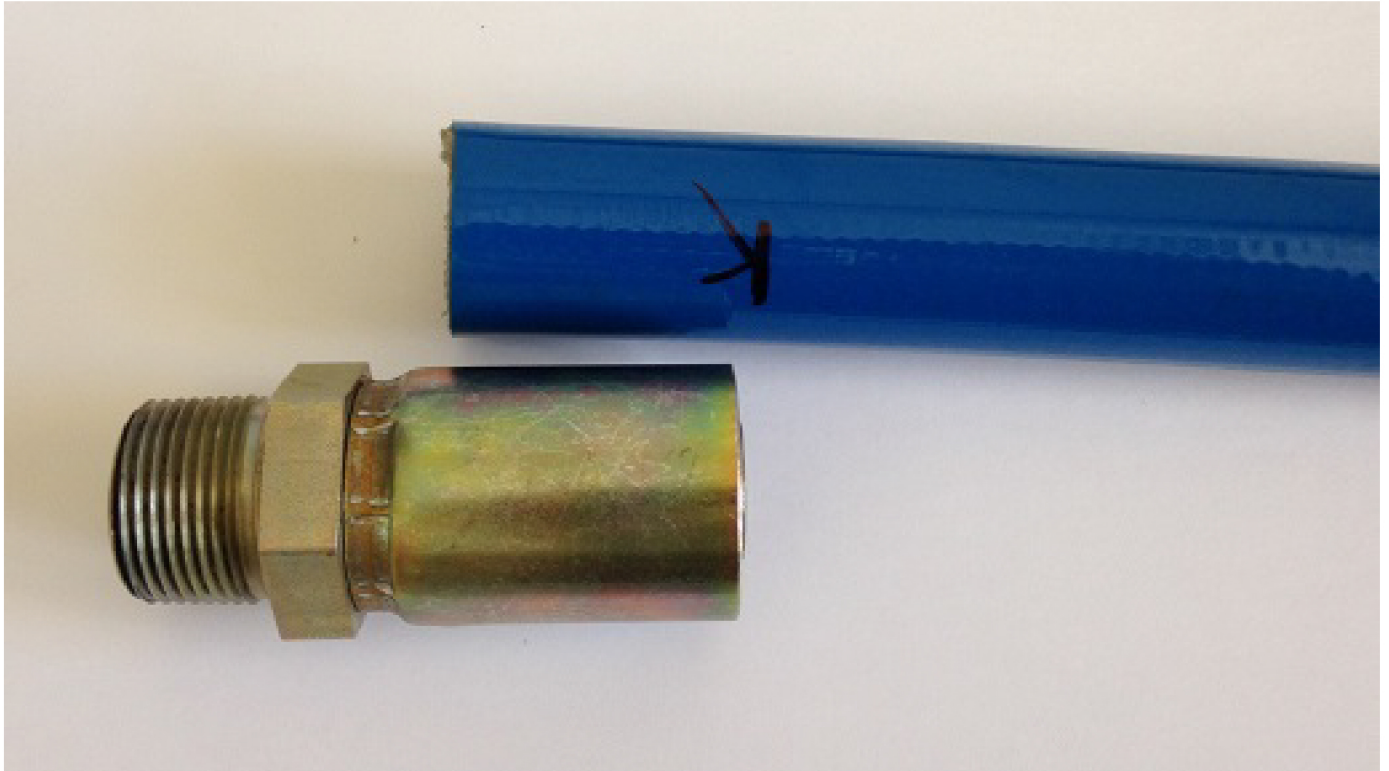
# **SECTION 1: HOSE INSPECTION**

1. Unreel the hose assembly and disconnect the hose from both the pump and storage or truck reel. Carefully inspect the hose for evidence of damage. The following are conditions that will require hose replacement, hose mending or end replacement.
  - Upon receipt of the hose, it should be taken off the reel and inspected for any flaw or damage.
  - Hose Burst – A hole in the outer jacket to the inner tube.
  - Cover damage exposing the braid of reinforcing fabric.
  - Any areas containing a blister or bubble in the outer cover.
  - Any kinking or hose collapse.
  - Any leakage from the hose end
  - Any signs of water in the fabric reinforcement layer. If any water is present within the reinforcing layer, the hose should not be used.
  - Any indication of incomplete bonding of the inner tube to the fabric reinforcement or the fabric reinforcement to the outer cover. The entire circumference should be inspected. If any lack of bonding is present, the hose should not be used.
  - Hose movement on the hose end or mender.
  - Flat spots or signs of stretching.
  - Fittings cutting into hose at the edge of connection.
  - Periodic inspection of the entire length of hose should be performed to inspect for damage that may have occurred while in use.
2. Check the color of the hose inner tube. Hose menders, ends, dies and pusher plate should be from the same manufacturer. If any of the conditions are not satisfactory, hose end(s) shall not be installed.
3. NEVER repair Hose Products hose with a fitting from another manufacturer.
4. NEVER use dies or a pusher plate from another manufacturer. Each hose manufacturer has different dimensions for fittings and hose. Hose burst may occur and could result in damage to the equipment or personal injury.
5. Proceed on to the assembly instructions in the next section when all of the above conditions have been confirmed.

## **SECTION 2:**      **ASSEMBLY INSTRUCTIONS**

### **STEP 1:**

- Use manufacturer's published insertion depth for reference.
- Mark the hose as shown below.



## **STEP 2:**

- Place the die set in the die receptacle as indicated below.
- Die parting line should be parallel with the hydraulic pump.
- Place the pusher in the upper receptacle.
- Magnets installed in the die set and pusher will retain each respectively.
- Lubricate the inside of the die set with a biodegradable oil.





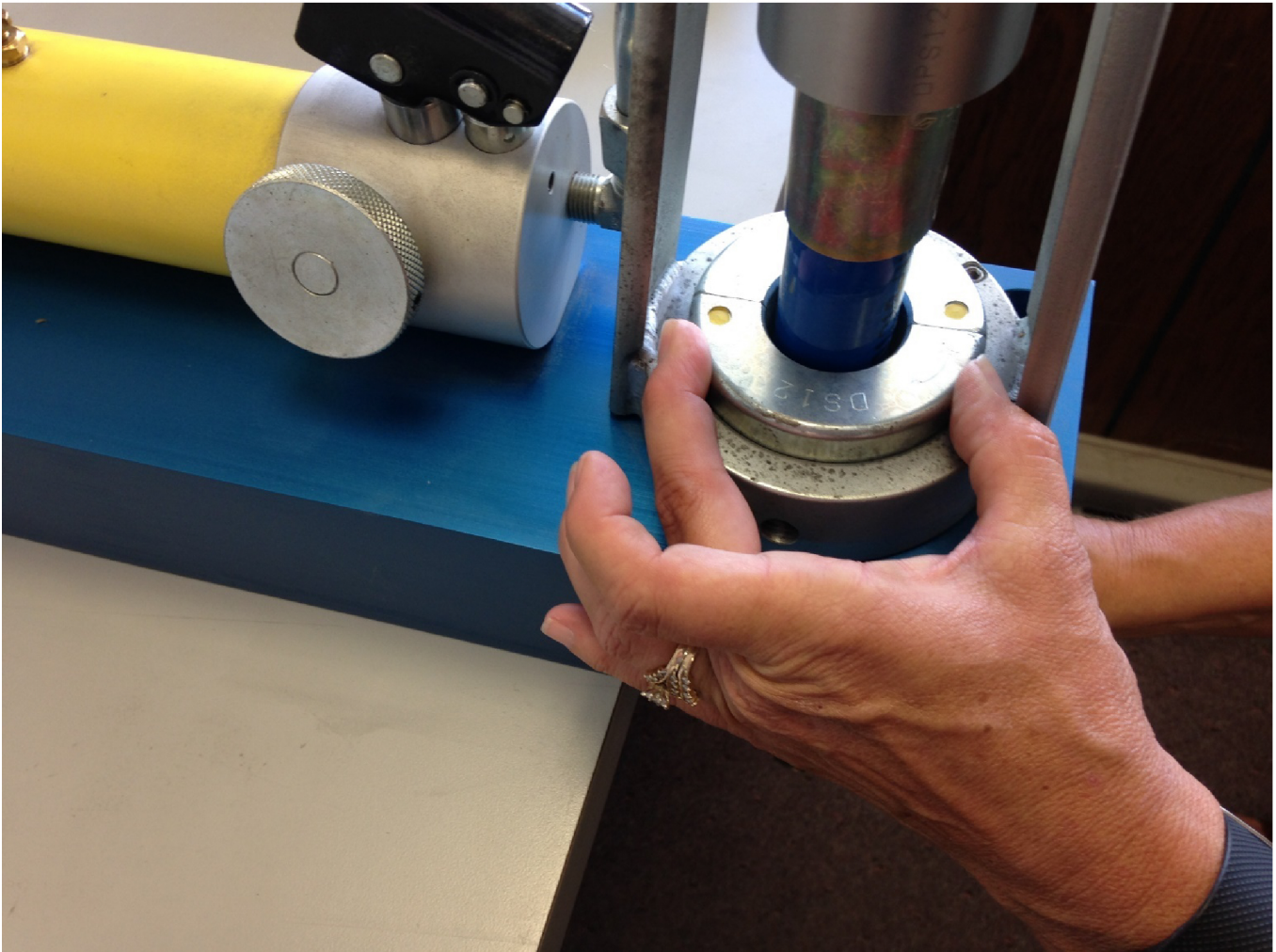
### **STEP 3:**

- Half of the die set needs to be clearanced to allow the hose and fitting to pass through the die set.



## **STEP 4:**

- Replace the die half into the die receptacle.
- Position hose and fitting into the pusher insuring the fitting shoulder engages the top of the pusher.
- DO NOT ENGAGE pusher on the threaded section of the hose end fitting.





## **STEP 5:**

- Insure the valve dial and relief valve stem are rotated fully clockwise.
- Insure hose and fitting assembly is properly seated in pusher by maintaining slight upward pressure.
- Engage the hydraulic pump handle and begin pumping.
- Continue pumping until the pusher contacts the die set.
- The swage operation is complete when the pusher contacts the die set.
- Rotate the valve dial counter clockwise to retract the pusher assembly.
- Rotating the relief valve counter clockwise will release air trapped in the pump aiding in pusher retraction.
- The completed assembly can be removed by removing a die half.





## **STEP 6:**

- Inspect the hose assembly insuring:
  - No hose movement in the hose end fitting.
  - The insertion mark on the hose made in Step 1 remains properly located.
- See In-service Inspection for details before use.
- If all criteria are met the hose assembly is now complete and ready for use.



## **SECTION 3: MAINTENANCE & STORAGE**

- Always use and store your BRUTUS® Hydraulic Swage Machine in an upright position to maintain the hydraulic fluid in the proper location in the pump and ram assemblies.
  - If placed on its side hydraulic fluid may leak causing the unit to malfunction.
  - Do not adjust or alter your BRUTUS® Hydraulic Swage Machine.
  - If service is required contact your authorized American Sewer Parts Dealer®.
  - Keep this manual with the BRUTUS® Hydraulic Swage Machine for reference.
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# **BRUTUS®**

## **PART NUMBERS**

### **LB04-08 1/4" - 1/2" NPT MACHINE**

DPS04NPT-PS	PUSHER 1/4" LB
DPS06NPT-PS	PUSHER 3/8" LB
DPS08NPT-PS	PUSHER 1/2" LB
DPS12NPT-PL	PUSHER 3/4" LB
DPS16NPT-PL	PUSHER 1" LB
DPS20NPT-PL	PUSHER 1-1/4" LB

### **BB12-20 3/4" - 1-1/4" NPT MACHINE**

DS04	DIE SET 1/4" LB
DS06	DIE SET 3/8" LB
DS08	DIE SET 1/2" LB
DS12	DIE SET 3/4" LB
DS16	DIE SET 1" LB
DS20	DIE SET 1-1/4" LB