# INSTALLATION MANUAL

# Hydraulic Conversion Kit
# TSA-155 & TSA-159

## INTRODUCTION:

Hydraulic Conversion Kits convert TS-2 Testing Screens with hand-cranked manual clamping to TS-1 models with hydraulically activated clamping. **TSA-155** is for models with serial numbers between 200 and 13825. **TSA-159** is for models with serial numbers 13825 and higher. These newer models feature a protective housing over the motor and drive mechanism.



**TSA-155**

## OPERATING INSTRUCTIONS:

1. Read instructions completely before installation.

2. ***To Install a Hydraulic Conversion Kit:***

   Unscrew and remove old Clamp Rods, Upper and Lower Guide Bearings, and Threaded Blocks. Normally, the Hard Steel Wearing Plate is not used with hydraulic clamping; if present, this 1/4x1x2in plate can be seen and removed through the opening in the top frame when each Upper Guide Bearing has been removed. On some older units, the hole in the top vibrating unit frame is enlarged because of wear; thus the plate must be used with Hydraulic Clamp Rods to keep the sleeve from slipping through the hole. If this is the case, the Collar and Pin on the new Clamp Rods will have to be lowered 1/4in by drilling a new hole in the rods. Install 1/4x1-1/4x3in Lower Frame Plate in place of former threaded block on both sides of the system. Use 3/8x1/2in long capscrews furnished. (**DO NOT** use old capscrews, which are longer.) Install Upper (large bore) and Lower Guide Bearings, but **LEAVE CAPSCREWS LOOSE** temporarily.

   ***If Converting a "B" Style Pump on the TS-1 to the Newer "A" Model:***

   Drain the system, remove hoses, remove old Model B pump, drive out pins in clamp rod collars, and remove the rods with cylinders attached. Loosen Upper and Lower Guide Bearings, but **DO NOT** remove them. Retain Upper Guide Bearing Sleeve, Hydraulic Plastic Dust Guard, and hoses for use with Model A System. The Lower Frame Plate remains intact.

3. Position Plastic Dust Guard over each Lower Guide Bearing. Remove Collar and Pin from new Clamp Rod and place Collar on top of Dust Guard (**DO NOT** invert Collar). With threaded end up, insert Clamp Rod down through top of frame, Collar and Guide Bearings. Move the Collar up on the Rod, align holes, and drive in the roll Pin, affixing Collar to the Rod. Slide the 7/8x4-1/4in Upper Guide Bearing Sleeve over Rod and down through Guide Bearing to rest on the top frame of internal vibrating unit. Remove cap from Hydraulic Cylinder with care, since Cylinder Spring is compressed inside. Slide Cylinder down over Rod. Install Jam Nut on top of Rod, and tighten. Insert Cylinder Spring, depress with Cylinder Cap, and fasten.

4. Remove the Belt Guard. If screen is Serial No. 3916 or higher, there will be punched knockouts in the case top to fit the new Pump. Serial Nos. 2580 to 3915 have punched knockouts for the Model B Pump; these should **NOT** be used. For all Serial Nos. below 3915, use the drilling template to drill three 7/16in dia. holes. On Serial Nos. below 1800, the Motor Snap Switch will need to be relocated as convenient, using a #25 drill. Insert the Pump Mounting Bolts through holes in the top frame, and install Pump, using nuts and washers. Connect Hose sections with swivel ends attached to Cylinders, and tighten them securely, using plumber's pipe dope. The long hose passes under the V-Belt and through the notch in the Belt Guard. It requires a Hose Clip positioned as convenient near the

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**PHONE:** 800-444-1508
740-548-7298
P.O. Box 200, Lewis Center, Ohio 43035-0200
**E-mail:** customerservice@gilsonco.com **Website:** www.globalgilson.com
**FAX:** 800-255-5314
740-548-5314

edge of the top frame angle and free of the Belt Guard location. Drill a 13/64in hole and attach with the self-tapping screw and lock washer. Serial Nos. below 1800 will need to have the notch cut in the belt guard for passage of the Hose before reinstalling.

5. Remove Pump Cover. Fill to 1/4in from the top with the hydraulic oil provided. Replace cover. Pump with short strokes of the pump handle until resistance is felt, then release pressure by pulling handle to the full forward position. Repeat this operation several times to fill the system. Then, with pressure released, refill reservoir to 1/4in from the top and replace the cover securely. **DO NOT** operate the pump with the pump cover removed, fluid will spray out.

6. Pump up the unit to the fully-clamped position, thus locking Clamp Rods, and Guide Bearing Capscrews, and all other bolts and connections. Check position of Guide Bearings for binding, and make sure the bottom member of the vibrating unit drops freely. Loosen Guide Bearings and reposition them if necessary; if not seated properly, the high side may be shimmed with one or more thicknesses of paper. Grease zerk fittings, and machine is ready for use.

7. Build up clamp pressure with smooth, short strokes of the pump handle. The pump may be operated during agitation if the sound of the unit indicates it is necessary. Clamp pressure is released by pulling the handle straight forward against the spring-loaded stop. The pump has a pressure relief bypass which is set at the factory for proper operating pressure. The TS-1 Service Manual contains maintenance information and detailed assembly drawings. If needed, contact Gilson for a new copy.