

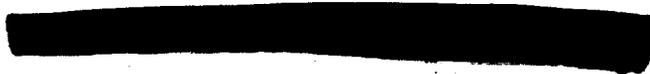
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CHARACTERISTICS AND DEVELOPMENT
 REPORT FOR THE H926 WARHEAD STAND
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J. F. Durrie, 7184

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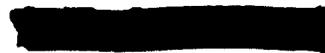
ABSTRACT

This document contains a complete and authoritative record
 of the design and development program for the H926 warhead stand.



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CHARACTERISTICS AND DEVELOPMENT REPORT FOR THE H926 WARHEAD STAND

1. INTRODUCTION

The purpose of this document is to provide a current, authoritative record of the design intent, product characteristics, and development history of the H926 warhead stand. The product definition drawings and specifications which are the basis of production contracts are listed on NX-320303.

2. DESCRIPTION

The H926 warhead stand consists of a 32 x 37 inch metal platform with a 20 x 20 inch center recessed as shown by Figure 1. Four vertical posts are cross braced and welded to the platform to assure rigidity. A threaded knob, screwed to the top of each post, is used to clamp other items of handling equipment to the stand. The outer flange of the platform is covered by steel floor plate and is supported approximately 7 inches above the floor by casters. The top of the stand is approximately 42 inches above the floor. A support ring, Figure 1, is bolted to the center of the recessed center section permitting the MC1403/1414 to be secured to the stand by the coupling ring (Figures 1 and 2). The stand weighs approximately 265 pounds.

3. DESIGN INTENT

The H926 warhead stand should be designed to secure the combined center section and preflight section (MC1403/1414) of the TX-57 weapon in a stable vertical position. It should permit the attachment of additional items of handling equipment necessary for the assembly and disassembly of the weapon. It should permit the operator easy access to the weapon and its components. The stand should provide a means of moving the weapon within the work area and yet be stable and heavy enough to prevent movement during use. It should be secured by floor locks or brakes. The H926 must be compatible with the MC1403 and the MC1414. The items of handling equipment designed to be compatible with the H926 are the H924

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trunnion set, H925 beam-type sling, H927 multiple leg sling, H928 spanner wrench, H930 hydraulic press, H959 hydraulic press adapter, H982 hydraulic press extension, H985 handling fixture, H1005/1083 hydraulic ram, H1021 retaining ring removal tool, H1027 beam-type sling, H1041 alignment tool, H1048 cable protector and cover guide, and the H1082 hydraulic pump.

4. PRODUCT CHARACTERISTICS

The H926 provides the capabilities listed under Design Intent.

When the combined MC1403/1414 is lowered into the H926 warhead stand, the attached H924/925 trunnion set and sling clear the H926. The H925 can then be removed from the H924 and the H926. Figure 2 shows the MC1403/1414 locked in the H926, with the H924 attached to the MC1403. The H925 has been removed.

When the H927 multiple leg sling is used to remove and suspend the aft pressure cover from the MC1403 center section, it is compatible with the H926. Figure 3 illustrates this operation.

The H928 spanner wrench and its attached torque wrench clears the H926 when the MC1402 retainer nut is removed or replaced. This compatibility is shown by Figure 4.

The plate of the H930 hydraulic press fits over and is clamped to the four upright posts of the H926 warhead stand. Figure 5 illustrates the compatibility of the H930 and the H926.

The H959 hydraulic press adapter is used with the H930 and the H926 to press the forward components into place in the MC1403. Figure 5 illustrates this compatibility of the H959 and the H926.

The frame of the H982 hydraulic press extension is clamped to two of the H926 upright posts during the assembly and disassembly of the MC1414 preflight section to the MC1403 center section. Figure 6 illustrates the compatibility of the H982 and the H926.

When the H985 handling fixture, Figure 7, is used to remove and replace the weapon's forward components from the MC1403, it is compatible with the H926.

The H1005/1083 hydraulic ram and the H1082 hydraulic pump and control box is compatible with the H926 during the assembly and disassembly of the weapon. Figures 5, 6, and 8 illustrate this compatibility.

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The H1021 retaining ring removal tool, Figure 8, is used with the H926 and other H-items during the assembly and disassembly of the weapon. A commercial torque wrench is used with the H1021, and both the torque wrench and the H1021 are compatible with the H926.

The H1027 beam-type sling, Figure 9, is used to remove and replace the warhead in the MC1403 center section when it is locked in position in the H926 warhead stand.

The H1041 alignment tool, Figure 10, is used to align the 1-E reservoir and valve units in the correct orientation when assembled in the MC1403 center section. The tool lays across the top of the MC1403 and is compatible with the H926 warhead stand.

The H1048 cable protector and cover guide, Figures 9 and 10, is used during the assembly and disassembly of the MC1403 center section in the H926 warhead stand. The H1048 is compatible with the H926.

The primary loads on the H926 consist of a maximum tension load of 8000 pounds when it is used with the H930 hydraulic press, the H959 hydraulic press adapter, and the H1005/1083 hydraulic ram. The maximum torsion load of 300 foot-pounds occurs during the use of the H928 spanner wrench. The load imposed by the H982 hydraulic press extension is 660 pounds in tension. The H927 multiple leg sling imposes a tension load of 200 pounds. General handling loads are negligible.

5. DEVELOPMENT HISTORY

A requirement for the H926 warhead stand was established by Division 7124. The basic warhead stand was designed first, and subsequent items of handling equipment were designed to be compatible with it. Two styles of prototypes were designed and fabricated: one a rigid design and the other a take-down version. The take-down version permitted one side of the stand to be removed. This allowed the warhead to be inserted in the stand at a low elevation where there was minimum overhead clearance. This version also had a platform designed to fit a forklift to provide maneuverability. Both types were designed to lock the warhead at the aft (upper) end; the torque was to be taken through the four upright posts. This method of holding the warhead has been superseded by the present design which clamps the warhead to the stand by the forward end and dissipates the torque load into the base of the stand.

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Of the two types of stands, the rigid design proved more acceptable and was adopted; however, various modifications have been incorporated due to changes in weapon configuration and to design requirements.

At one time, serious consideration was given to a proposal for horizontal disassembly. It was decided, however, that the vertical stand was the most practical for complete disassembly of the warhead. The H926 warhead stand was released in September 1961.

A static test was conducted April 18, 1962, Test Report T-18656, on the combined H926 warhead stand and the H930 hydraulic press. This combination was subjected to a static vertical load of 8000 pounds (the maximum vertical load allowed on the warhead) and 16,000 pounds with no indication of failure. The load was increased in specified increments until the bolts used to fasten the H930 hydraulic press to the top of the H926 deformed and failed at 22,700 pounds. This is 2.8 times the maximum load that may be applied to the stand.

Two samples from early production were given a complete functional evaluation and found acceptable for use with WR material.

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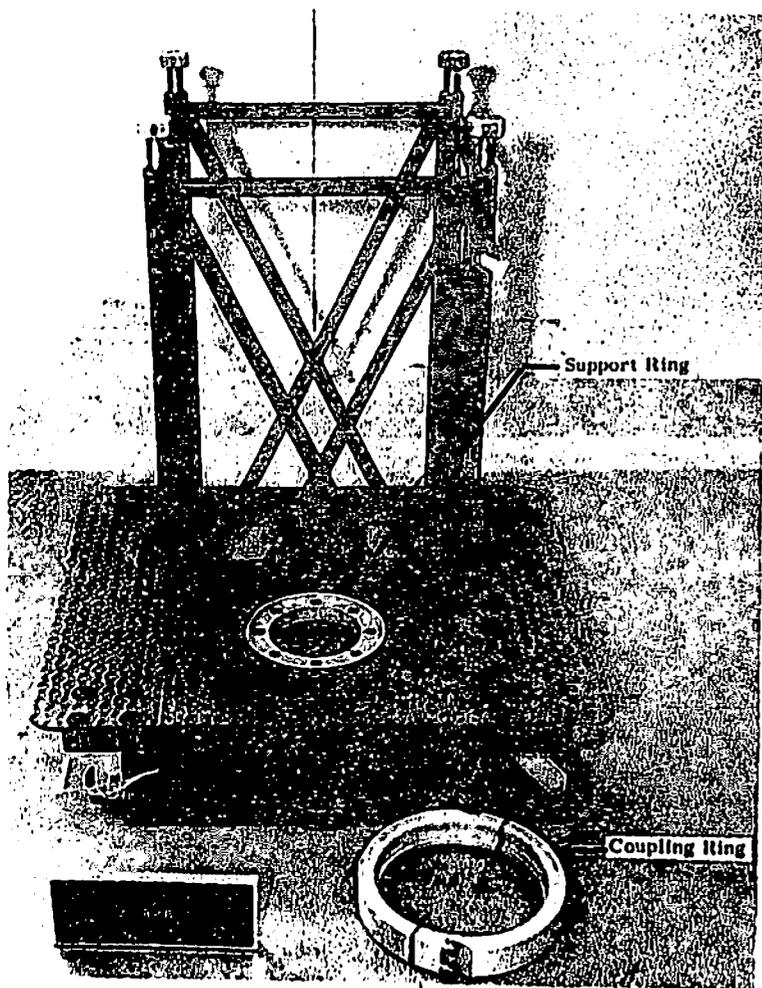


Figure 1. H026 Warhead Stand

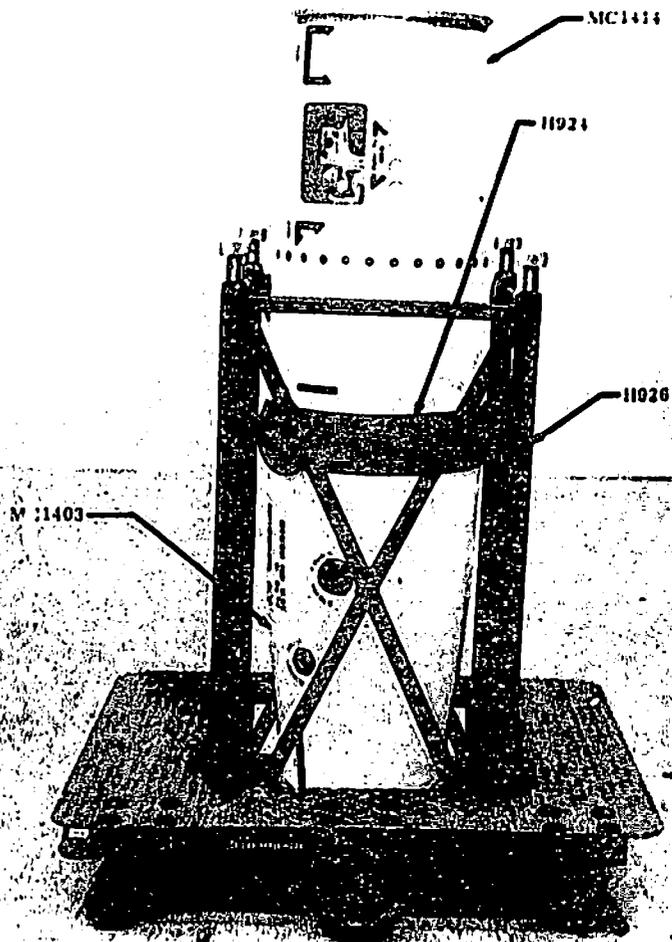


Figure 2. MC1403/1414 in the H026

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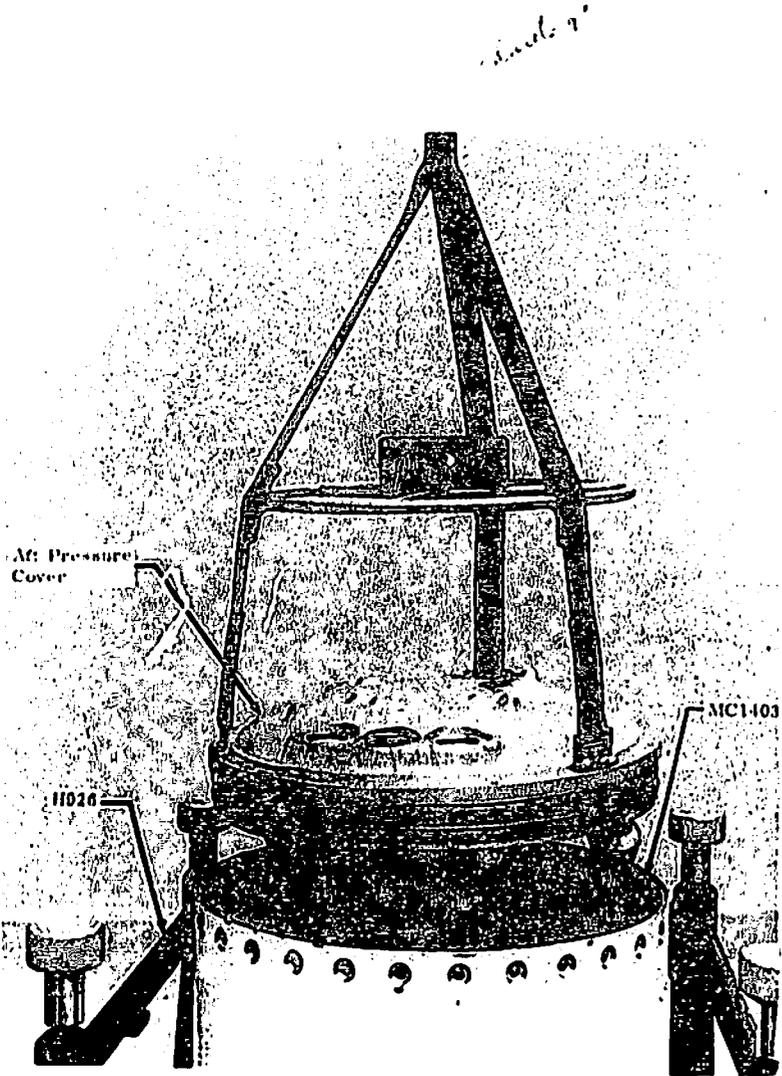


Figure 1. 11026 Multiple Leg Sling Removing Air Pressure Cover From MC1403 Center Section

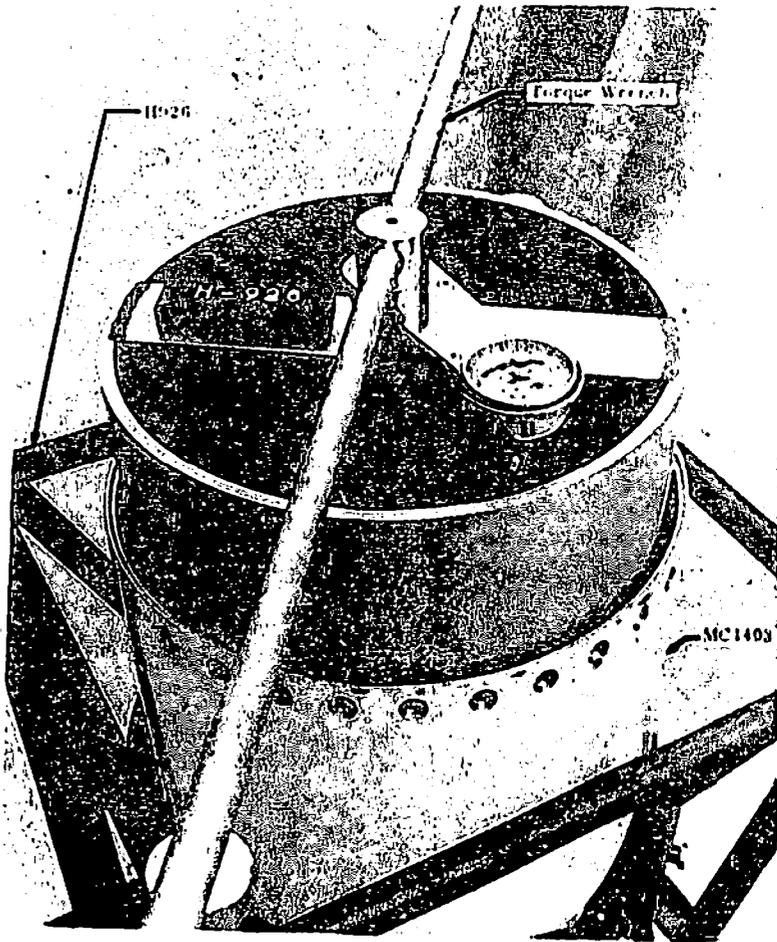
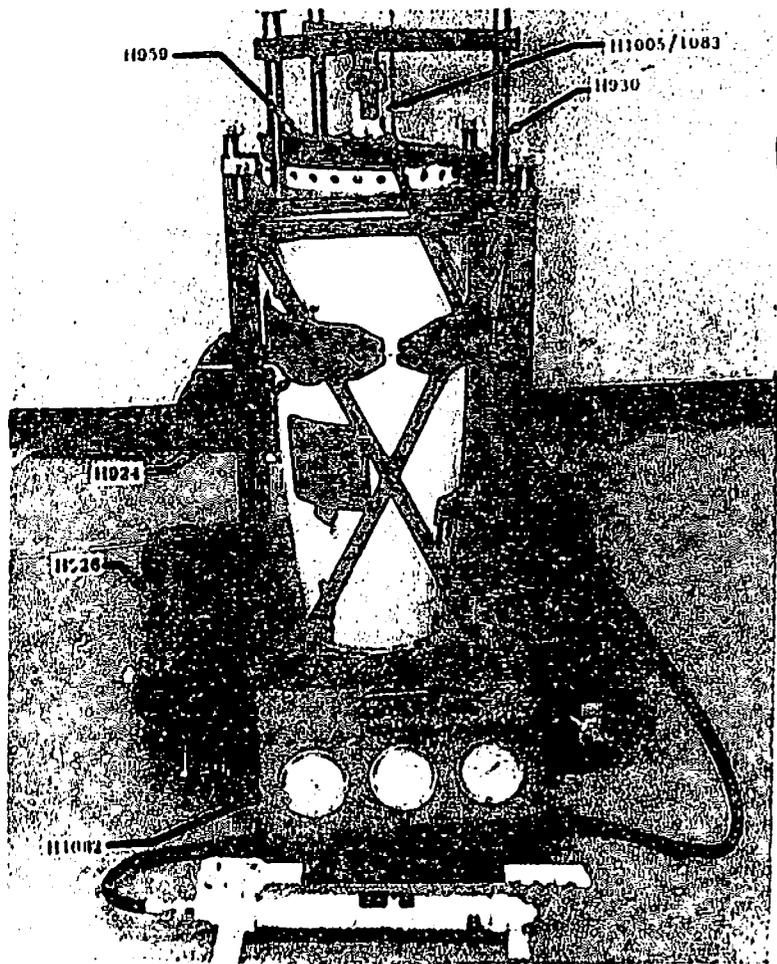


Figure 1. 11026 Spanner Wrench and Attached Torque Wrench

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10 Figure 5. H-939 Hydraulic Press Adapter Used with the H930 and H926

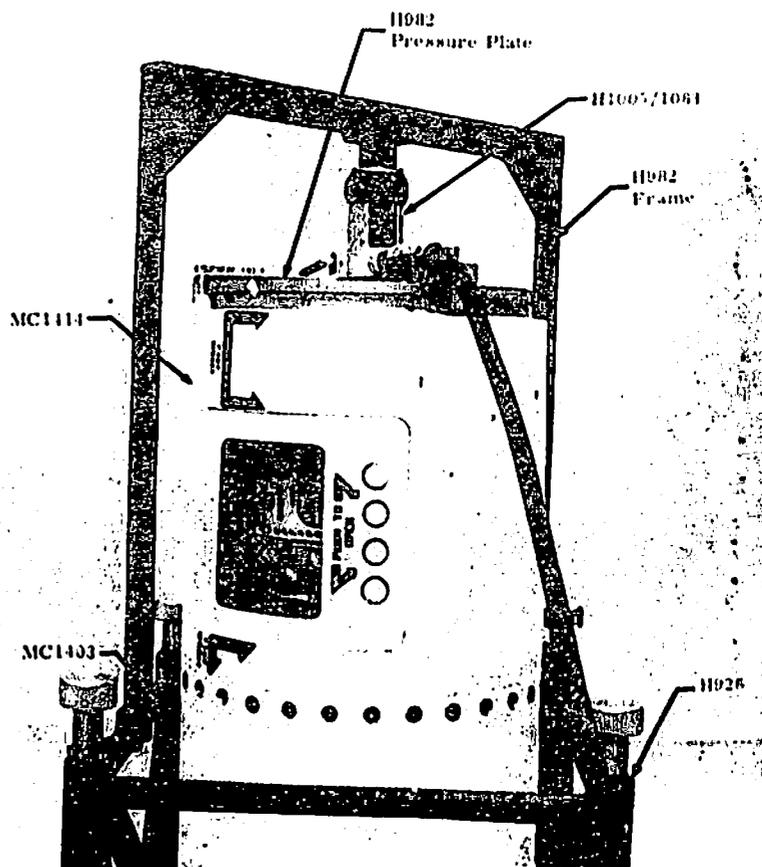


Figure 6. H902 Hydraulic Press Used with the H902 Frame

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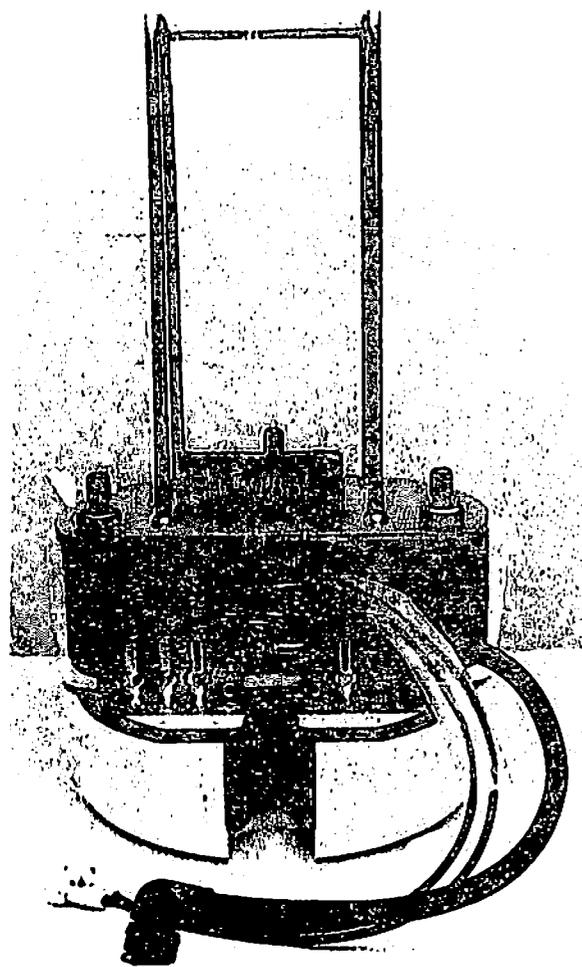


Figure 7. 11085 Handling Fixture

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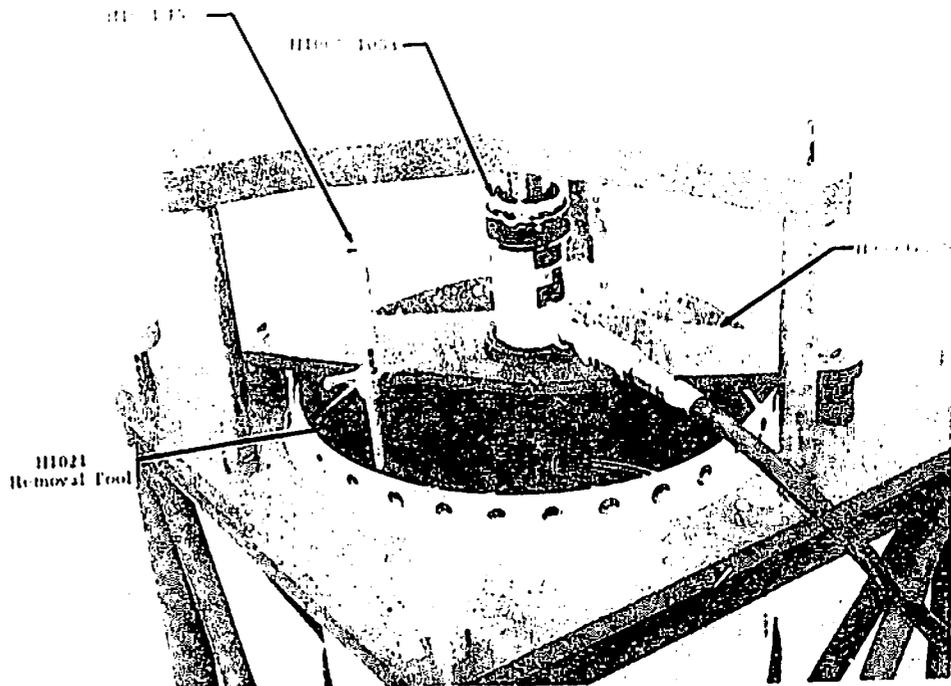


Figure 8. 11005/1081 Hydraulic Ram and 11021 Retaining Ring Removal Foot

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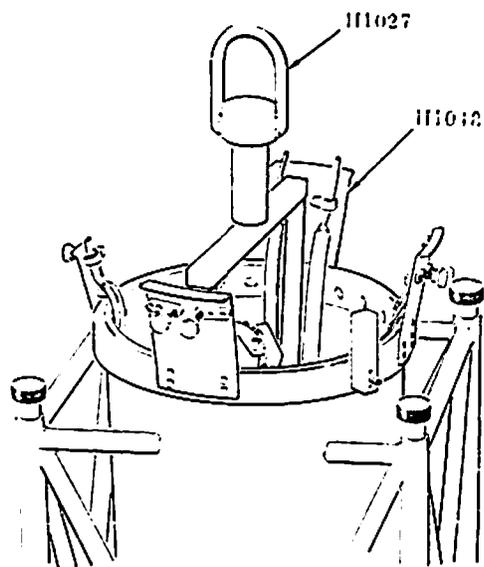


Figure 9. H1027 Beam Type Sling and H1048 Cable Protector and Cover Guide

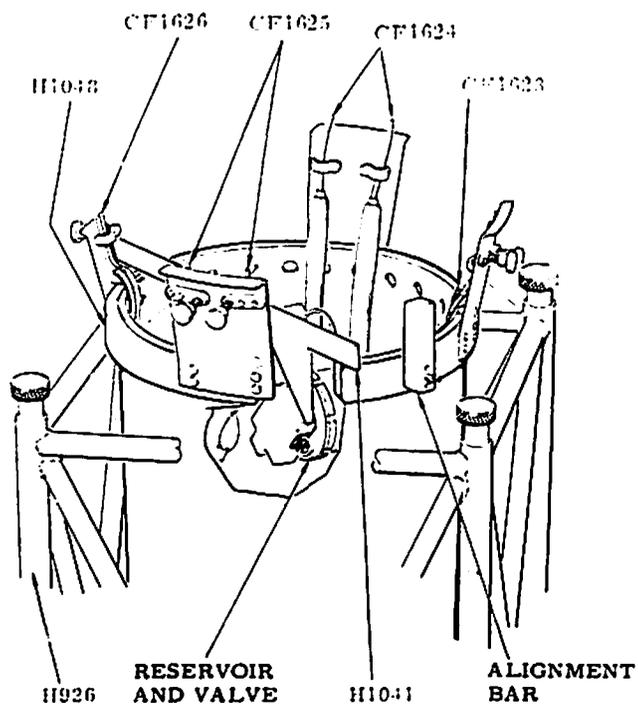


Figure 10. H1041 Alignment Tool in Use