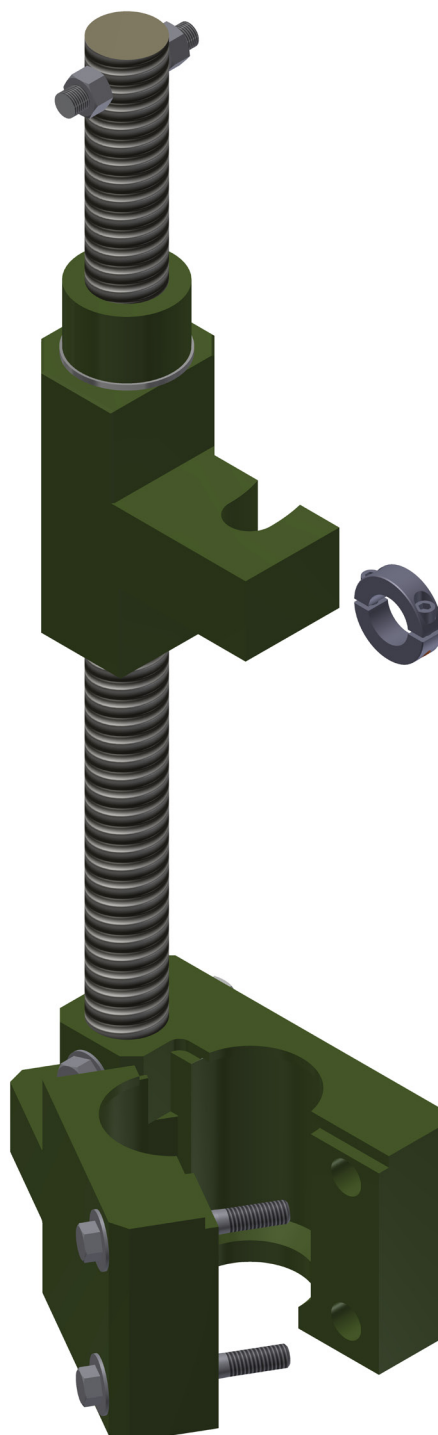




Simple Precision™



# KAM® IT™ INSERTION TOOL

User Manual

ITMANUAL-0115

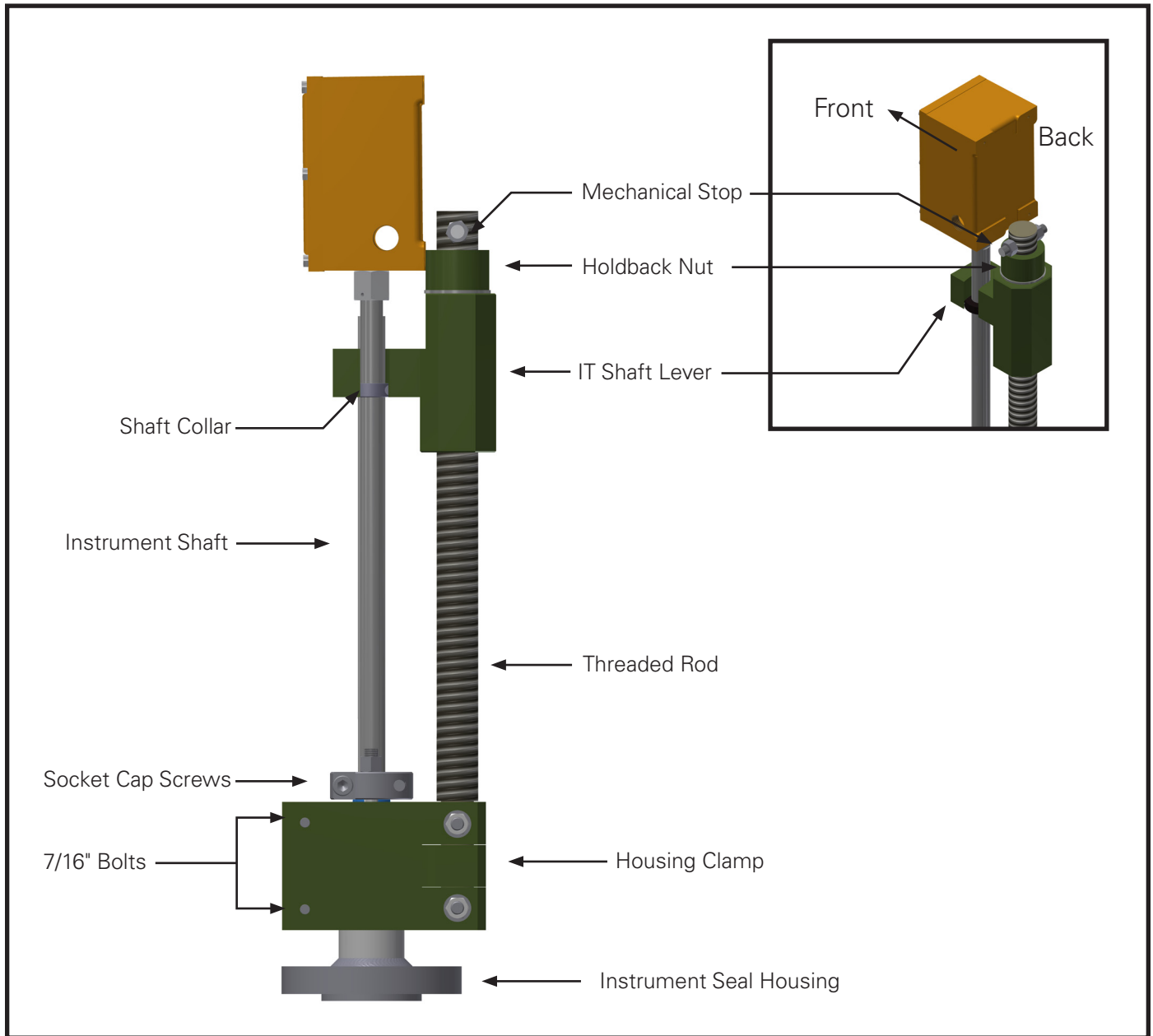
TEL +1 713 784-0000  
FAX +1 713 784-0001  
Email Sales@Kam.com

KAM CONTROLS, INC.  
3939 Ann Arbor Drive  
Houston, Texas 77063 USA  
www.KAM.com

An ISO 9001 certified company

# INSTALLATION

Utilize the KAM® IT Insertion Tool in pipeline installations where pressure exceeds 100 psi. It can be used with all KAM® insertable instruments.



## CAUTION:

When installing any product in a pipeline containing petroleum products, petro-chemicals, waste waters with the presence of pressure & temperature, and high-pressure steam refer to the Pipeline Operators' "Health, Safety and Environmental Policy Procedures" to ensure safe installation.

KAM CONTROLS, INC. reserves the right to make changes to this document without notice.

# INSTALLATION

1. Prior to using the IT Insertion Tool, instrument should be mounted on pipeline per instructions in manual. DO NOT loosen Socket Cap Screws or attempt to insert probe tip to the insertion line until the IT installation is complete.
2. Ensure that the Socket Cap Screws on the instrument seal housing are tightened.
3. Turn Holdback Nut counter-clockwise until it reaches Mechanical Stop on Threaded Rod. (See Inset.)
4. Spread open the Housing Clamp and place around the instrument Seal Housing with the Threaded Rod aligned with the back of the instrument. (See Inset.)
5. Close the Housing Clamps and tighten the 7/16" bolts using a 5/8" wrench. The IT should now be mounted on the instrument with the Threaded Rod parallel to the Instrument Shaft.
6. Slide the IT Shaft Lever up to Holdback Nut, and install the provided 1" Shaft Collar on the instrument's shaft Just below the Shaft Lever. The Shaft Collar should be installed with screws facing towards the right side of the instrument's enclosure when looking to enclosure lid. The groove in the Shaft Lever should automatically fit over the Shaft Collar.
7. Turn the Holdback Nut clockwise until it comes into contact with the Shaft Lever.
8. Loosen the Socket Cap Screws on the instrument Seal Housing and open the ball valve.
9. Using a pipe wrench, turn the Holdback Nut clockwise until calculated insertion mark (see individual product manual for directions) reaches the top of the Seal Housing.
10. Tighten Socket Cap Screws with a hex wrench.
11. Turn the Holdback Nut counter-clockwise until there is enough space to remove the IT Lever.
12. Loosen 7/16" bolts on the Housing Clamp and remove KAM IT Insertion Tool from Seal Housing.

NOTE: If, during insertion, the Shaft Lever reaches the Housing Clamps prior to the insertion mark reaching the top of the Seal Housing, repeat steps 2-9 in order to fully insert the shaft to the calculated insertion depth.

CAUTION: Loosening Socket Cap Screws at any time without a properly installed Insertion Tool or the shaft already fully retracted from the pipeline could cause the shaft assembly to forcibly eject due to pressure in the pipeline, potentially causing bodily injury and/or damage to the instrument.

# REMOVING THE INSTRUMENT

1. To remove the instrument, first ensure that the Socket Cap Screws are tight.
2. Place the Shaft Collar on the Instrument Shaft approximately 3" below the bottom of the Shaft Adapter.
3. Spread open the Housing Clamp and place around the instrument Seal Housing with the Threaded Rod aligned with the back of the instrument.
4. Close the Housing Clamps and tighten the 7/16" bolts using a 5/8" wrench. The IT should now be mounted on the instrument with the Threaded Rod parallel to the Instrument Shaft.
5. Slide the Shaft Lever down until it rests over the Shaft Collar.
6. Turn the Holdback Nut clockwise until it is tight against the Shaft Lever.
7. Loosen the Socket Cap Screws on the instrument's Seal Housing.
8. Using a pipe wrench, turn the Hold Back Nut counter-clockwise until the instrument is fully retracted. (A mechanical stop prevents the shaft and probe from fully ejecting through the Seal Housing). If the Holdback Nut reaches the Mechanical Stop at the top of the Threaded Rod before the instrument is fully retracted, tighten the Socket Cap Screws and repeat steps 1-7.
9. Tighten the Socket Cap Screws.
10. Loosen 7/16" bolts on the Housing Clamp and remove KAM IT Insertion Tool from Seal Housing.
11. Close the ball valve.
12. Remove instrument from mounting.

CAUTION: Loosening Socket Cap Screws at any time without a properly installed Insertion Tool or the shaft already fully retracted from the pipeline could cause the shaft assembly to forcibly eject due to pressure in the pipeline, potentially causing bodily injury and/or damage to the instrument.