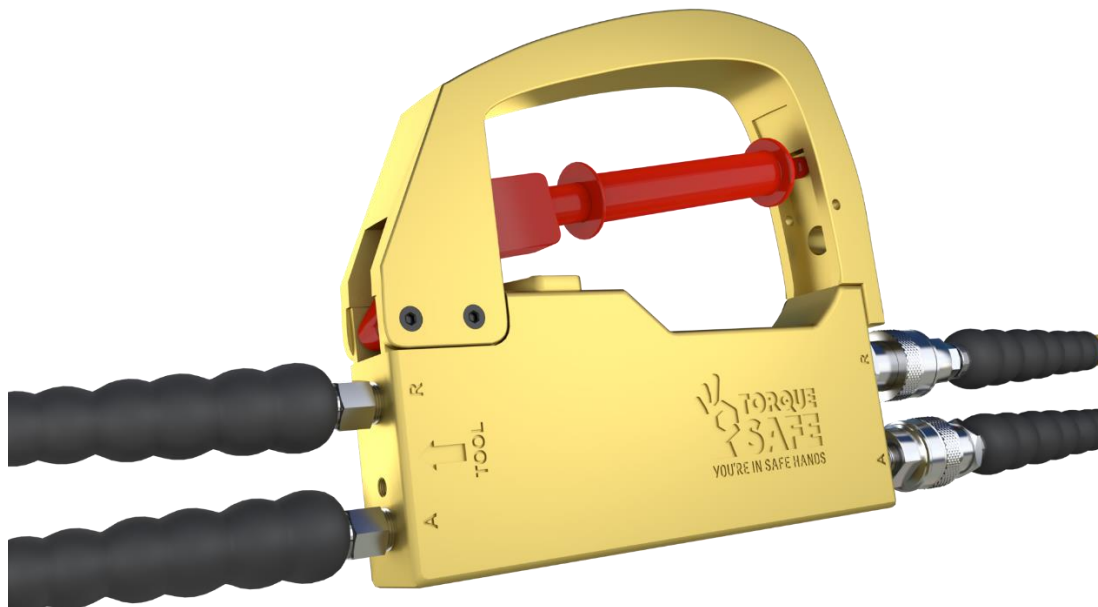




OPERATIONS MANUAL

2022



Torque Safe is a patented (U.S. Patent No. 10,571,032, AU2016214966, CN107250634, EP3254005, and GB2550315) hydraulic isolation system which functions as a safety switch which has been designed to divert & lock out the oil supply to hydraulic torque tooling and thus preventing it from driving.

Hand crush accidents associated with hydraulic wrenches is a serious safety concern. Most accidents happen when one person is actuating the remote and another is handling the tool. Torque Safe isolates the hydraulics and gives control as to when and whether the tool will actuate to the person whose hands are on the tool.



This eliminates the problem caused by miscommunication between the operator and the person holding the button. The best way we can describe the in-line system is that it functions similarly to a lock-out tag out safety system for hydraulic wrenches, thus enabling the technician to have full control of whether the tool will actuate when placing the wrench on the bolt.

PLEASE REFER TO YOUR TORQUE WRENCH OEM OPERATIONS MANUAL FOR CORRECT PROCEDRES OF TOOLING AND TORQUE CHARTS.

OPERATIONS MANUAL

Before use of any hydraulic torque tooling an inspection must be carried out and a clear plan of communication between operators.

Inspect:

- torque wrench for calibration, it's recommended the calibration should be within 12 months to ensure torque accuracy. The torque Safe is an accessory which does not affect the torque accuracy or torque output of the hydraulic wrench system. Therefore, it does not need to be calibrated or verified.

Check Prior to use

- pump for oil level and damage,
- hoses and fittings for any signs of damage, cuts or leaks,
- torque wrench swivel assembly and TORQUE SAFE unit for damage or leaks,
- reaction arm for cracks and damage, ensure the reaction foot is on the reaction arm and locks into position properly.
- the drive mechanism locks into position correctly.
 - Ensure use of impact torque rated sockets and correct reaction arm for the job.
 - Never use pry bars or hammers on any torque wrench.
 - TORQUE SAFE is never to be used as a reaction arm.

If inspections and checks are successfully completed it is now safe to operate your torque wrench and properly install your IN-LINE Torque Safe.

Refer to your Hydraulic Torque Wrench and Hydraulic Wrench pump manuals for complete set up, operating and safety instructions.



IF ANY DEFECTS ARE IDENTIFIED UPON INSPECTION DO NOT USE THE TOOLING. IT MUST BE TAGGED OUT OF SERVICE AND PROPERLY INSPECTED, REPAIRED OR REPLACED.



Default is SAFE
Will not operate position

If there are no leaks release the lever. DOWN is the default and natural SAFE position.

Now activate the pump, the torque wrench should not drive.

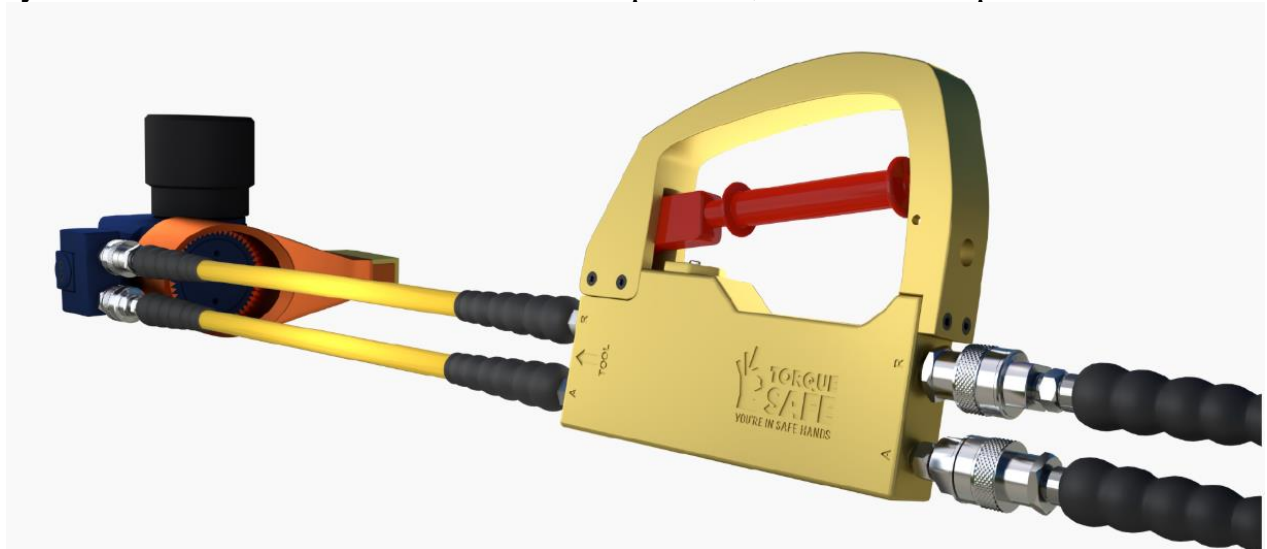
Set up and connecting the Torque Safe

Once inspection has been completed successfully, connect the hoses from the pump to the Torque Safe. Then connect the short hoses on the Torque Safe to the Hydraulic Torque Wrench. The True Dead Man Torque Safe will automatically divert the flow of oil to and from the hydraulic wrench. The tool will not actuate.

The default position of the Torque Safe is “SAFE”. In order to actuate the tool and set the pressure you need to hold the lever of the Torque Safe UP in the DEAD MAN operating position. Hold the lever UP to set the pump to maximum pressure. Activate the torque wrench and the Torque Safe to ensure



there are no leaks. Whilst standing clear. you must place the torque wrench on the ground, Hold the lever on the Torque Safe UP. UP is the Hydraulic Wrench operating position. The instant the lever on the Torque Safe is released the system will revert to home to its “SAFE” position, and will not operate.



The IN-LINE Torque Safe is made to operate in line with your hydraulic wrench pump and your hydraulic wrench.

The Torque Safe comes with hoses and connections already installed. If you need to replace a connection do not switch them around. You **MUST** replace a male connect with a male connect and a female connect with a female connect.

1. Torque Safe Connections to the hydraulic wrench pump hoses. The retract connection is female and your advance connection is male.
2. On the short hoses connecting the Torque Safe to your hydraulic wrench. The connect on the hose is Female for Advance and Male for retract.
3. The connects on the hydraulic wrench is male on the advance side and female on the retract side.
4. The connects on the hydraulic wrench pump is male on the advance side and female on the retract side.

Failure to adhere to this scenario will cause your system not to work properly.

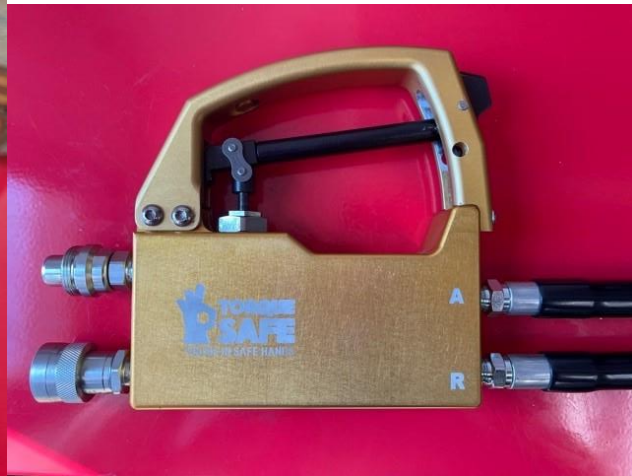


OPERATIONS MANUAL

True Dead Man Configuration



True Dead Man Configuration
“SAFE” position



Shown with lever in the default
“SAFE” position

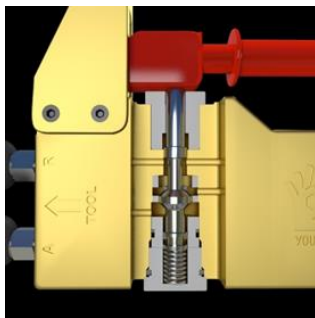
- In The dead Man configuration when the lever is down, and the valve is closed, you are now in safe operation mode. In Safe Mode the oil is diverted back to the pump reservoir and the tool will not actuate. This allows the tool operator to handle and position the Hydraulic Torque Wrench safely without concern of an unwanted tool actuation due to the actions of a 2nd operator operating the remote control.
- In the **True Dead Man** configuration, the natural default position of the lever is depressing the valve (safe Mode). Therefore, the safe mode is the default. To operate the Hydraulic Wrench, the tool handler must hold the lever UP into the operate position. Once the Lever is released, the lever finds home and prevents the tool from actuating. Acting in many ways like A GFCI does with an electrical circuit. The handle must now be manually held up to operate the wrench.

When the TORQUE SAFE SAFETY SWITCH is depressed, it is safe and will not actuate.



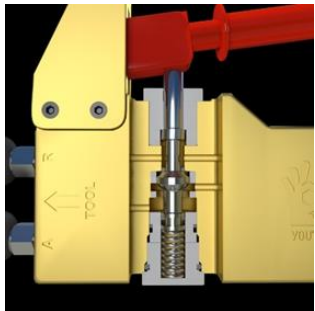
When the Torque Safe Safety Lever is UP the hydraulic wrench will operate as normal. Once the lever is released the tool reverts to “SAFE” position. This prevents your torque wrench from operating. Only activate the safety switch once the torque wrench is firmly on the bolt and safe for your tooling to drive and all appendages are free of any reaction area.

IN Line True Dead Man



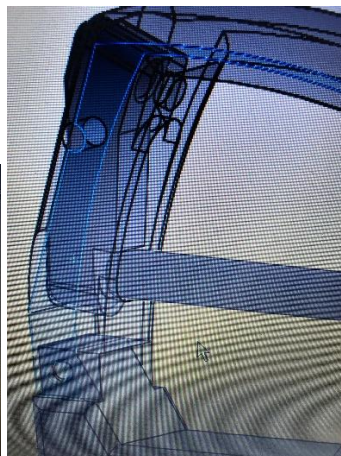
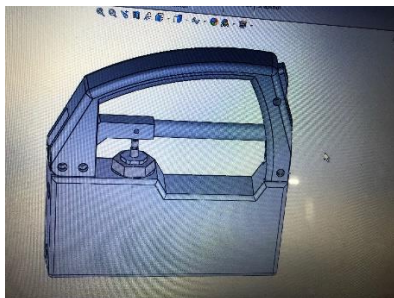
Lever is down in its default Natural Safe position and the oil flow is directed away from the hydraulic torque wrench and back to the pump.

IN LINE TRUE Dead Man



Lever must be held up in operate position. Oil flow is directed to and from the hydraulic torque wrench as normal operation occurs.

IN LINE TRUE Dead Man



Default is safe. Lever depressed on the valve



TORQUE SAFE

YOU'RE IN SAFE HANDS

Torque Safe TRUE DEAD MAN Common Assembly & Disassembly Procedure

Parts to replace

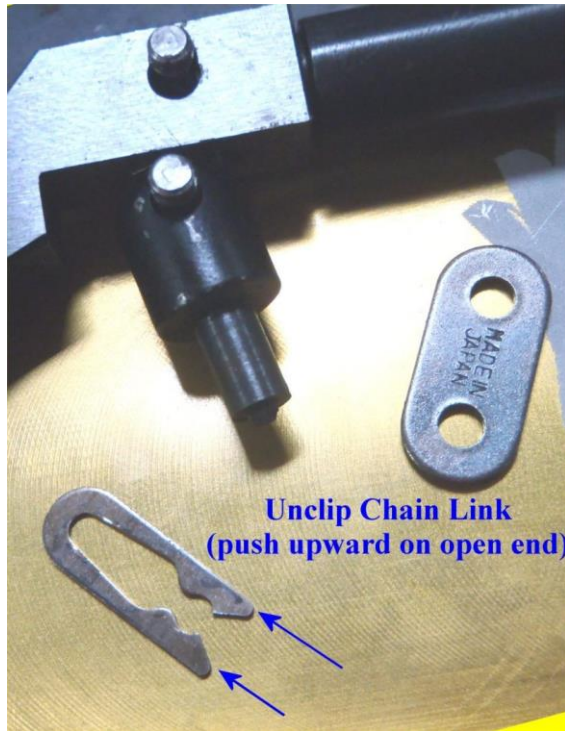




Disassembly



Step 1





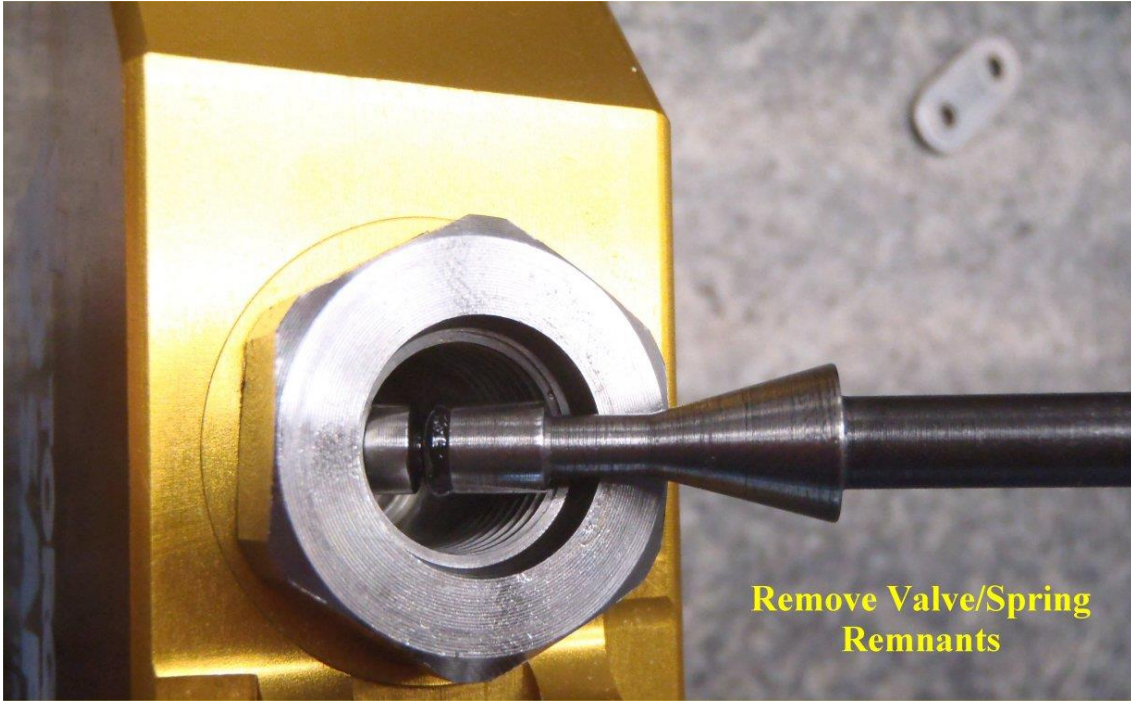
Step 2



Step 3



Step 4



Step 5





Step 6

Torque Safe TRUE DEAD MAN Valve Assembly Procedure

Install New Valve And Spring



Step 1



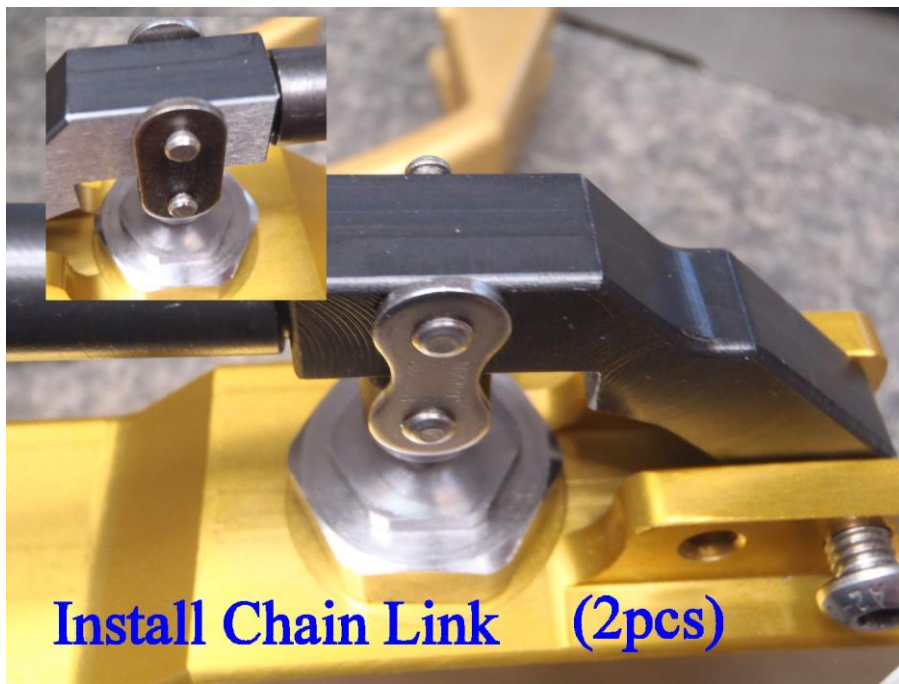
Step 2



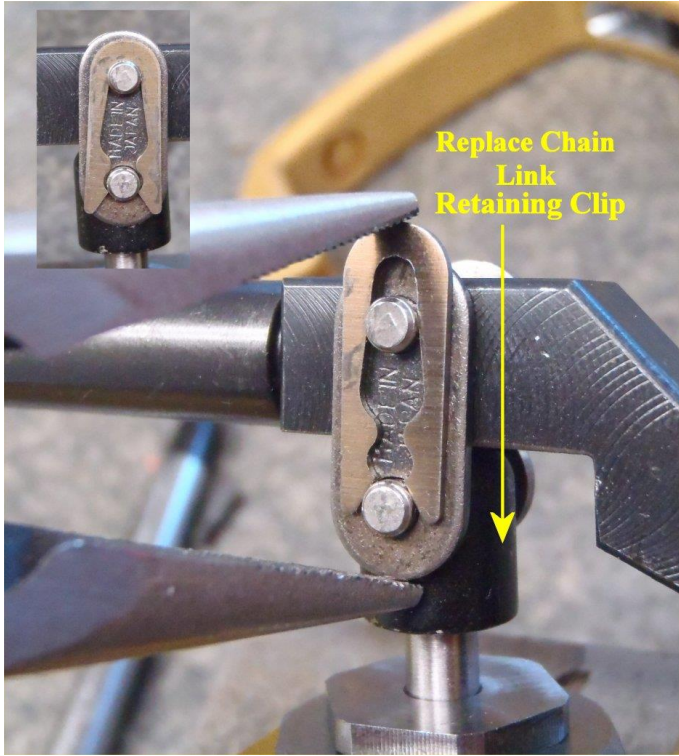
Step 3



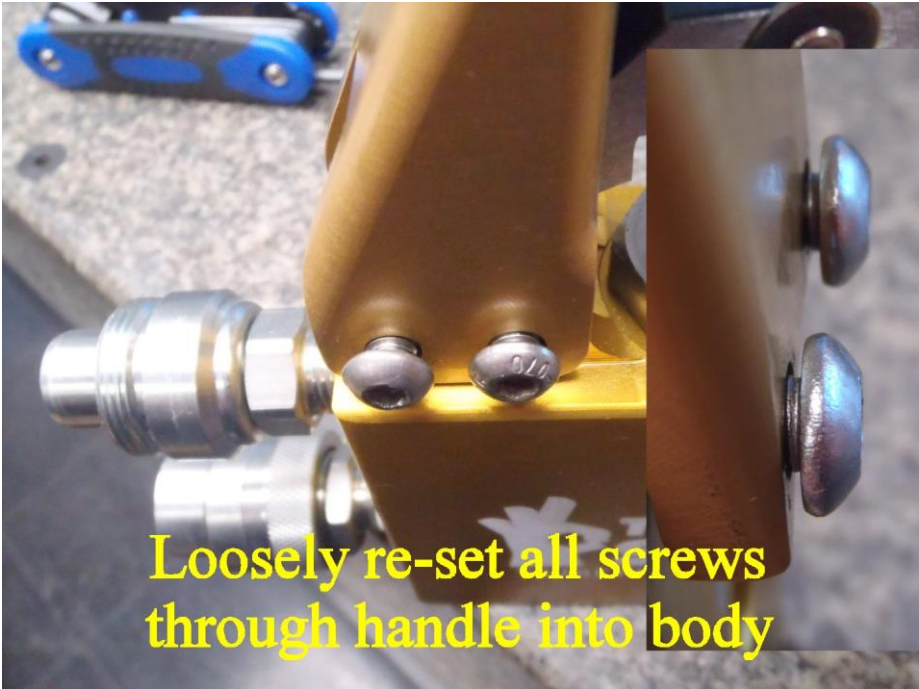
Step 4



Step 5



Step 6





Step 7



Step 8



List of Spare Parts

Ordering Number	Description	Qty
TS-001-TDM-00	Seal Kit	1
TS-001-TDM-01	Button Head Socket Screws	Set of 6
TS-001-TDM-02	Chain Link Retaining Clip	Set of 2
TS-001-TDM-03	Chain Link	Set of 2
TS-001-TDM-04	Trigger	1
TS-001-TDM-05	Safety Lever	1
TS-001-TDM-06	Safety Release Switch	1
TS-001-TDM-07	Valve Stem Cap	1
TS-001-TDM-08	Valve Cap	1
TS-001-TDM-09	Valve Spring	1
TS-001-TDM-10	Valve Stem (with Seal)	1
TS-001-TDM-11	Hoses (with connections)	Set of 2
TS-001-TDM-12	Male Connect with ¼ NPT	Set of 2
090156-2	Female Connect	Set of 2

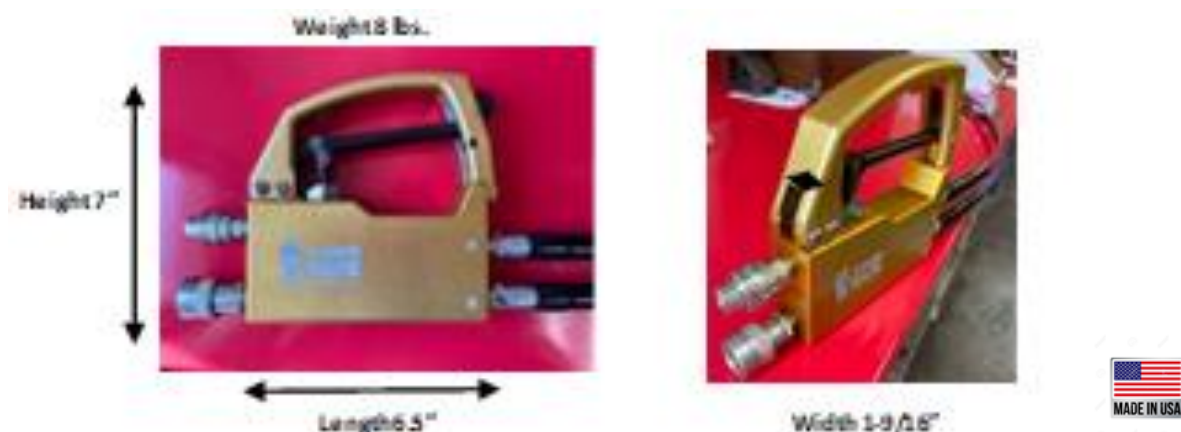


The Torque Safe inline has been designed to be easily removable to ensure its easily swapped over from tool to tool or fitted to various wrenches on the job.

https://youtu.be/G_uVYFjCPes

- The IN-LINE Torque Safe can be used with any brand or model hydraulic wrench and can even be used with rental tools.
- It's got short & flexible hoses that always ensures the Torque Safe is within reach of the tool handler.
- It does not change the training procedures you currently have; it can be a small addition to the currently training.
- **TORQUE SAFE is designed to offer another level of protection to the tool handler.** It's not designed to change the wrench operating or training. It's purely there to offer crush protection when moving the wrench to another bolt.
- Torque Safe reduces company potential liability exposure in the event of an accident. May reduce or eliminate “**duty of care breach**” issues involving hydraulic wrench hand crush incidents
- Designed from the ground up as a true Dead Man Safety configuration. We give complete control to the person whose hands are in harm's way

Weight, Dimensions & Specifications



Housing Material is 7075 Alloy, Handle is 4340 Steel & Pintle is Maraging Steel, (C300). There are two Hoses of 3' Lengths. The hoses are rated at 10,000 psi operating and 40,000 psi burst pressures. US sourced and manufactured.

Warranty: 2 years. “You break it, we fix it”

Unit shipped complete with hoses & connections