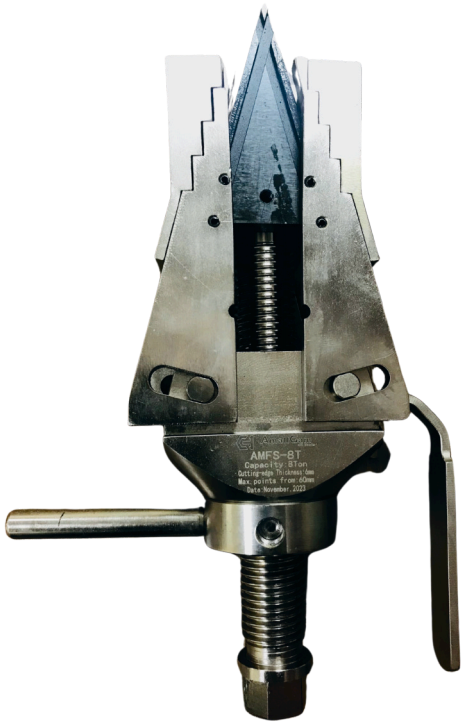
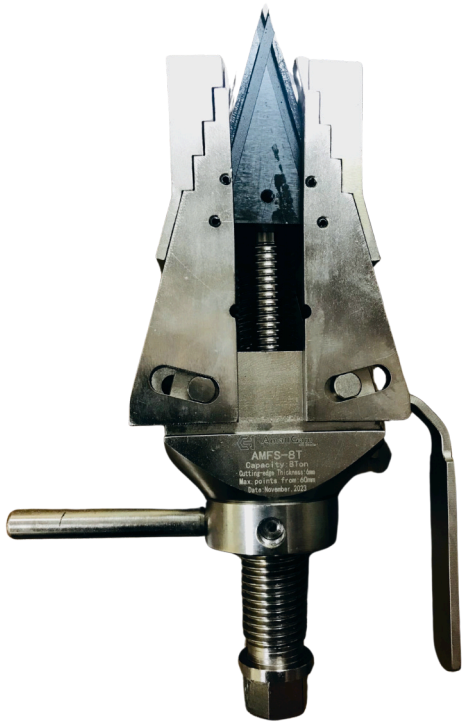
OPERATION AND MAINTENANCE MANUAL

Read the instructions, warnings, and cautions thoroughly before using the tools and keep it well for future referring.



OPERATION AND MAINTENANCE MANUAL FOR AHFS & AMFS SERIES FLANGE SPREADERS



It is an operating manual for the AHFS & AMFS Flange Spreader, please read carefully, follow instructions, warnings, and cautions before using the tools.

SAFETY GUIDE

The TheGAW Flange Spreader's safe usage requires correct operation and regular inspection. The user is requested to follow always and carefully. ▲ Precaution to avoid direct loss of economic or property. ▲ Warning to avoid personal injury. Please follow herein before! When using, if something abnormal happens, please shut off the power immediately, and then consult AmallGam Service Team.

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1. IMPORTANT RECEIVING INSTRUCTIONS

Visually inspect all components for shipping damage. Shipping damage is not covered by a warranty, if shipping damage is found, notify the carrier at once. The carrier is responsible for all repair and replacement costs resulting from damage in shipment.

2. SAFETY ISSUES Read all instructions, warnings, and cautions carefully. Follow all safety precautions to avoid ⚠ personal injury or property damage during system operation. AmallGam cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance, or incorrect product and/or system operation. Contact AmallGam when in doubt as to the safety precautions and operations. If you have never been trained in high-pressure hydraulic safety. Consult your distribution or service center for a free AmallGam Hydraulic safety course. Failure to comply with the following cautions and warnings could cause equipment damage and personal injury.

• **A CAUTION** is used to indicate correct operating or maintenance procedures and practices to prevent damage to or destruction of equipment or other property.
• **A WARNING** indicates a potential danger that requires correct procedures or practices to avoid personal injury.
• **A DANGER** is only used when your action or lack of action may cause serious injury or even death.

WARNING: Wear proper personal protective gear when operating hydraulic equipment.
WARNING: Stay clear of loads supported by hydraulics. A cylinder, when used as a load-lifting device, should never be used as a load-holding device. After the load has been raised or lowered, it must always be blocked mechanically.

WARNING: USE ONLY RIGID PIECES TO HOLD LOADS. Carefully select steel or wood blocks that can support the load. Never use a hydraulic cylinder as a shim or spacer in any lofting or pressing application.

• **DANGER**: To avoid personal injury, keep hands and feet away from the cylinder and workpiece during the operation

WARNING: Do not exceed equipment ratings. Never attempt to lift a load weighing more than the capacity of the cylinder.
Overloading causes equipment failure and possible personal injury. The cylinders are designed for a max. pressure of 700bar [10,000psi]. Do not connect a jack or cylinder to a pump with a higher-pressure rating.

⚠ **Never** set the relief valve to a higher pressure than the maximum rated pressure of the pump. Higher settings may result in equipment damage and/or personal injury.

WARNING: The system operating pressure must not exceed the pressure rating of the lowest- rated component in the system. install pressure gauges in the system to monitor operating Pressure. It is your window to what is happening in the system.

CAUTION:

Avoid damaging the hydraulic hose. Avoid sharp bends and kinks when routing hydraulic hoses. Using a bent or kinked hose will cause severe back pressure. Sharp bends and kinks will internally damage the hose leading to premature hose failure.

Do not drop heavy objects on the hose. A sharp impact may cause internal damage to hose wire strands. Applying pressure to a damaged hose may cause it to rupture.

DANGER: DO NOT HANDLE PRESSURIZED HOSES.

Escaping oil under pressure can penetrate the skin causing serious injury. If oil is injected under the skin, see a doctor immediately.

WARNING:

Only use hydraulic cylinders in a coupled system. Never use a cylinder with unconnected couplers. If the cylinder becomes extremely overloaded; components can fail catastrophically causing severe personal injury.

WARNING: BE SURE THE SETUP IS STABLE BEFORE LIFTING THE LOAD.

Cylinders should be placed on a flat surface that can support the load. Where applicable, use a cylinder base for added stability. Do not weld or otherwise modify the cylinder to attach a base or other support.

3. PRODUCT INTRODUCTION: Wedge separator AMFS-8T is a Mechanical tool. AHFS-14T is a hydraulic tool.

These two wedge separators adopted the complete wedge concept. They are used in separating flanges and bringing spacing to do the surface repair of the flanges and the change of gaskets. AMFS-8T can do the 22mm working of a ratchet wrench. AHFS-14T is working through RC-102 single-acting cylinders. AHFS-14T should be offered power by hand pumps.

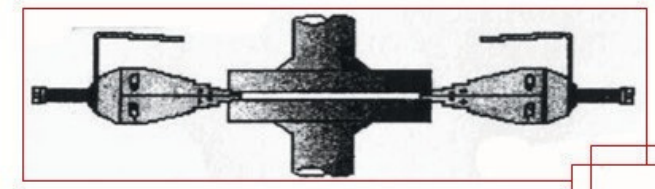
3.1 APPLICATIONS: Wedge separators can be used in: The maintenance of the pipelines and flanges, the exchange of

move square connectors, quick couplings, pad and metal seals, and the repair and exchange of the valves and control parts.

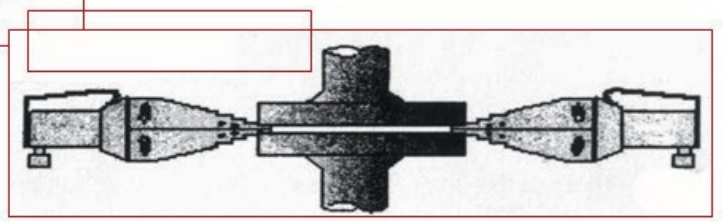
4. OPREATINAL MANUAL: The two wedges used in the series are very recommended. It can give the average expanded door

to the connection place. The wedge should be put in the position of 1800 (Read Pic.1)

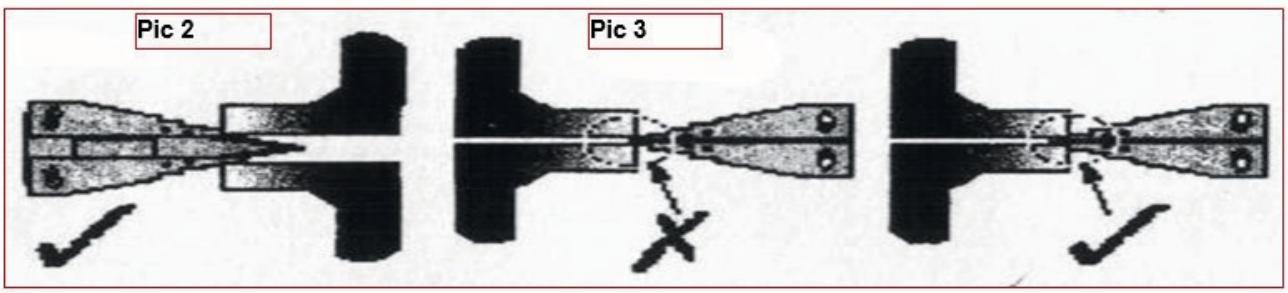
AMFS-8T Pic 1



AHFS-14T Pic 1

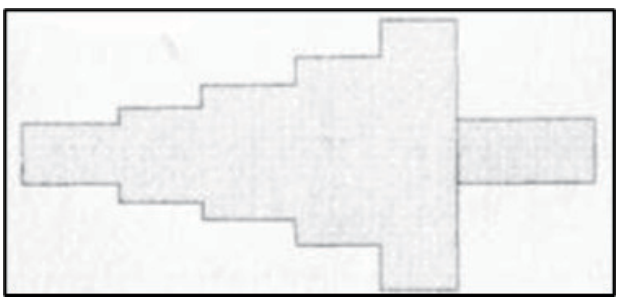


The wedge can be used when its step areas are completely put into the gap space, and the expanded aim should meet the root of the next step.



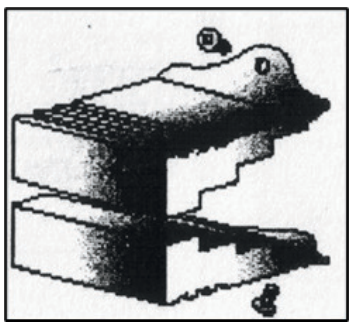
IMPORTANCE:
Make sure the wedge is completely positioned on the step which is chosen for expansion. (Read Pic.2 and 3) The min keep length is 15mm.
The safety block (Picture 4) can be put in the connection space and release the pressure on to safety block.

Pic 4



The operator should lubricate every wedge and four sliding pins before using the equipment; it can help to extend the usage life of the wedge and reach max. using efficiency.

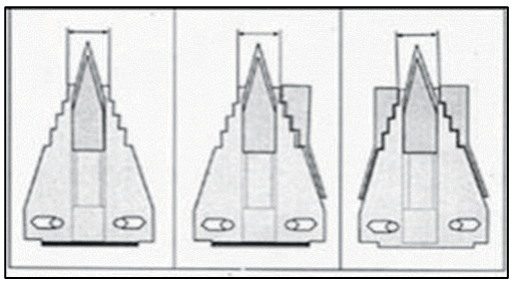
Warning: Do not put your fingers on the connection place through the support of a moving wedge unless a safe padding has been positioned in the connection areas. **NOTE**: When the wedge retracts, the handle is helpful to stop the operator from supporting the separated chuck, which will stop the fingers being nipped in the middle of the chuck. **NOTE**: Do not use a hammer or push the wedge into the gap. **NOTE**: Do not operate the equipment without the lubricated wedge and the four sliding pins.



Pic 5

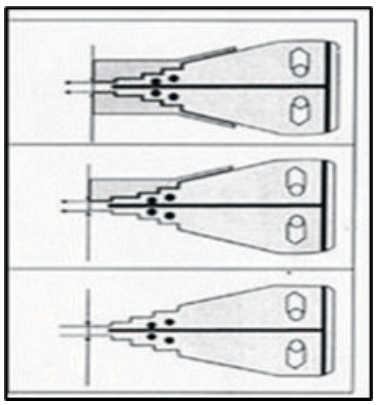
5. The Using of the step padding (FSB-1) When the wedge expand machine is used together with **FSB-1** step padding, the max. open length can increase up to 61-81mm (Read Pic. 5 and 6).

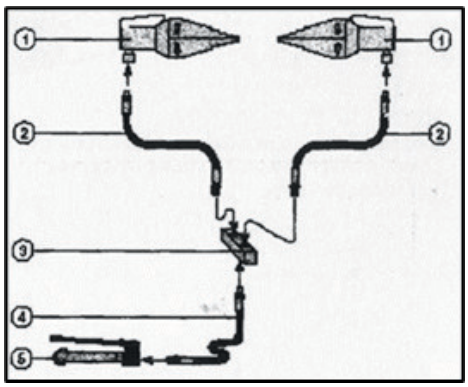
Using FSB-1 is easier to exchange the padding in connection areas. Metal seals and the surface of the clean flange. The use of Step padding decreases the possibility for wedges to enter the contact face.



• **The size of the wedge head when using FSB- 1 step padding.** Using the step padding can make sure each minimum keeps length: 15mm before expanding.

6. Wedges used in series. The two wedges used in the series are very recommended. It can give the average expanded door to the connection place. The wedge should be put in the position of 1800 (Read Pic.1) When using the wedges together with hand pumps, diffluent valve groups, and hydraulic hoses, the two wedges are used very easily at the same time. (Read Picture7). 1=AHFS-14T 2=HC-700 series hydraulic hoses. 3=AM-2 diffluent valves groups orA-64, A-66, FZ-1612 4=HC-700 series hydraulic hoses 5=P series hand pump(P-142)





6.1 Special Mutual Design.

The special shape and design of the wedge teeth can bear the high separate force, and even enter under the lower height 6mm.

Importance: Always contact with the root of the wedge step. That can ensure enough power when separating the flange.

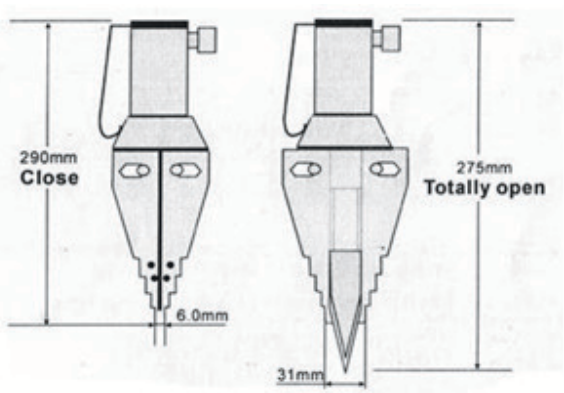
Note: AMFS-8T The max. capacity of the bolt is 150ft. lbs. (203Nm).

Note: Only use the ratch wrench supplied with AMFS-8T

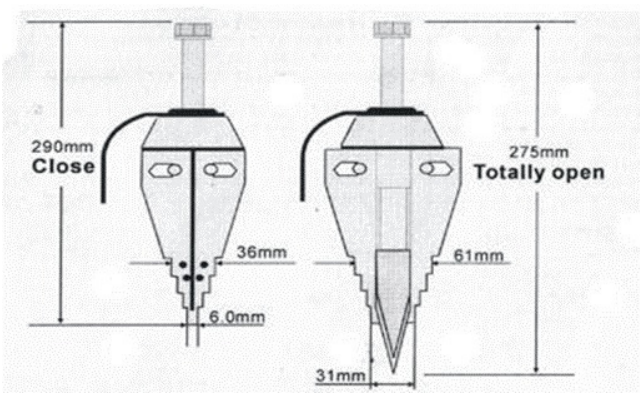
Warning: Cannot work over the rate of the max. force.

Note: Cannot use the impact tools on the bolt.

7. Size and Specification



AHFS-14T (Pic-9)

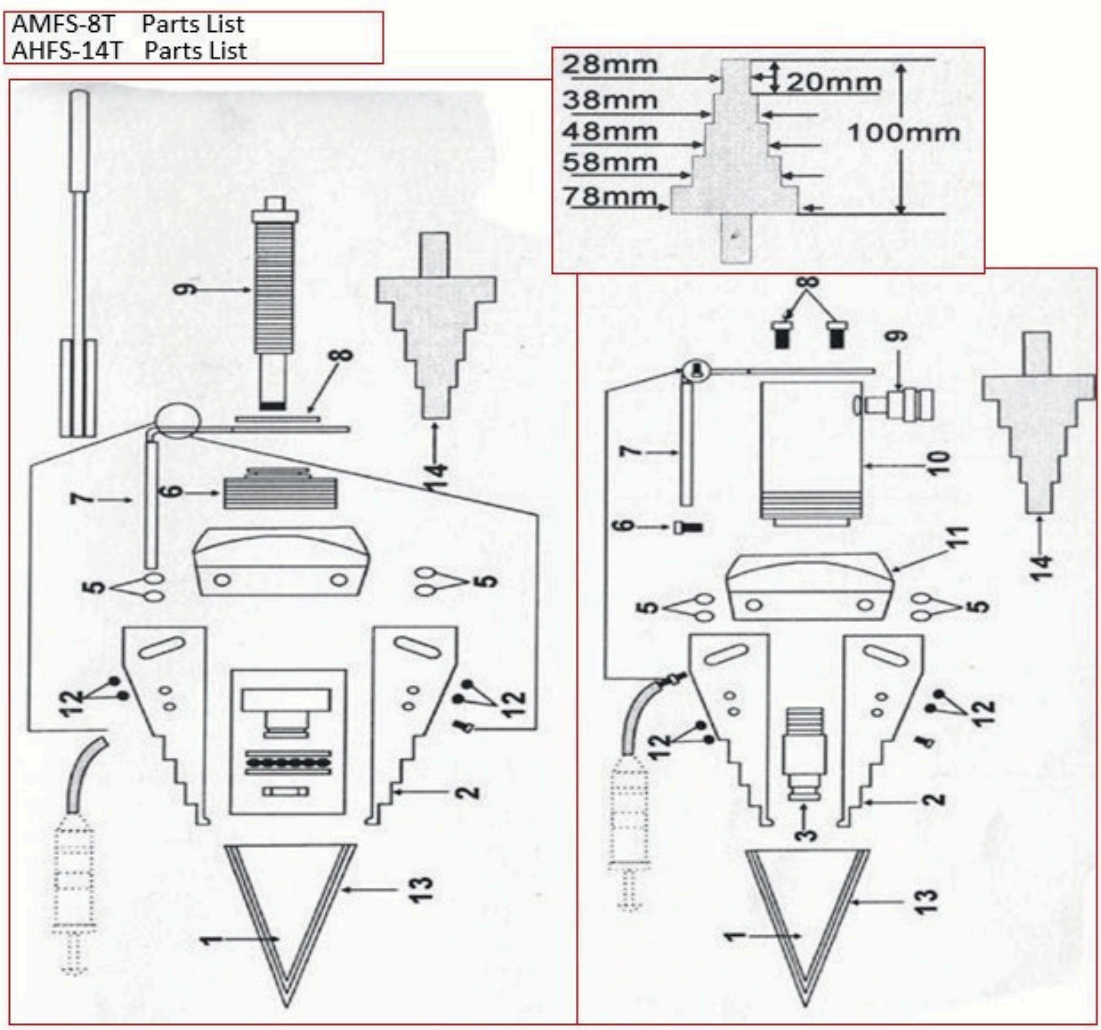


AMFS-8T(Pic-9)

Model	Max. Expanding Force	Requested Min.Enter Space	Type	Weight	Optional Step Padding
AMFS-8T	8Ton	6mm	Mechanical	6.5Kg	FSB1
AHFS-14T	14Ton	6mm	Hydraulic Max Pressure	7.0Kg	FSB1

8. AMFS-8T(Pic-9)

9. AHFS-14T (Pic-9)



No	Description	Qty	Part No		No	Description	Qty	Part No
1	Wedge	1	En300101		8	Criclip	1	En302101
2	Jaws	1 set of 2	En300201		9	Pushrod	1	EN302202
3	Thrust Bearing assembly	1	En301801sr		11	Body	1	En301101
4	Set Screws	1 set of 4			12	Split Pins	1	Set of 8
5	Pins	1 set of 4			13	Set Screw	1	Set of 8
6	Male/Female Coupling	1	En301901		14	Safety Block	1	EN303201
7	Handle	1	En302001		15	Spanner	1	En400201

NOTES:

All TheGAW products are guaranteed against defects in workmanship andmaterials for as long as you own them. Under this guarantee, free repair or replacement will be made to your satisfaction.

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