



AUTO-SPLITTER™

ANGLE-HEAD

Hydraulic Nut Splitter



Operation & Maintenance Manual

KEEP FOR YOUR RECORDS

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INTRODUCTION

With the **FASTORQ® Auto-Splitter**, you can safely cut through the largest frozen nuts in just seconds.

- ◆ **Versatility:** can be used on a wide range of nut sizes.
- ◆ **Flexibility:** fits into tight spaces and cuts virtually any shape nut with the use of adapters.
- ◆ **Precision:** cutting chisel can be calibrated so that only the nut is cut, with no damage to the bolt or stud threads.
- ◆ **Speed:** from toolbox to use in less than five minutes, and only 20 to 30 seconds to cut a nut.
- ◆ **Safety:** no hammers, no impact, no flame, no hot permits required.

SAFETY TIPS

Always wear the appropriate protective equipment, such as safety glasses and gloves

Do not allow the hydraulic hoses to kink, twist, curl or bend so tightly that the oil flow within is blocked or reduced.

Never attempt to grasp a pressurized hose that is leaking.

Never exceed 10,000 psi of hydraulic pressure while operating an Auto-Splitter.

Never place any body part between the tool and the equipment being worked on, especially moving parts such as the chisel.

Do not split nuts into sections smaller than half of the nut. Pieces may fly off the nut if it is split in smaller sections. See Figure 1.



Figure 1

IMPORTANT NOTE: Auto-Splitter cuts from 5/8" to 6-1/2" (16-165 mm) across the flats hexagonal nuts. You can use it for both imperial and metric sizes, and with virtually any shape nut. **Round, square, 12-point and other special nuts will require the use of an adapter.** Adapters for all of these various types of nuts are available including, huck bolts.

POWER REQUIREMENTS

The Auto-Splitter is hydraulically driven. All models require a hydraulic pump that delivers 10,000 psi pressure. Any type of hydraulic pump may be used, including air, electric, foot or hand-driven pumps.

FASTORQ® Hydraulic Pumps to be used with Auto-Splitter:

Auto-Splitter Model	100-H Manual Hand	105-A Air	115-E Electric	150-H Manual Hand	150-F Manual Foot	205-A Air	215-E Electric
AS100	X	X	X	X	X	X	X
AS105AH	X	X	X	X	X	X	X
AS200AH	X	X	X	X	X	X	X
AS204AH		X	X	X	X	X	X
AS210AH		X	X	X	X	X	X
AS308AH			X	X	X	X	X
AS314AH			X	X	X	X	X

All **FASTORQ**[®] hydraulic pumps include the necessary fittings and hoses. If a **FASTORQ**[®] hydraulic pump is not being used to power the Auto-Splitter, the following requirements must be met:

Auto Splitter Model	Valve Type	Hose Rated at:	Usable Minimum Capacity
AS100	2-Way	10,000 PSI	5 in ³
AS105AH AS200AH	2-Way	10,000 PSI	10 in ³
AS204AH AS210AH	2-Way	10,000 PSI	44 in ³
AS308AH AS314AH	2-Way	10,000 PSI	82 in ³

PARTS LIST Type 1

Type 1 Auto-Splitters have externally threaded chisel holders with internal threads in the piston rod. (See Figure 4)

Item	Description	AS100	AS105AH	AS200AH
1	Housing	D88045	B94084	B94061
2	Set Screw	SSN4-20	SSN4-20	SSN4-20
3	Allen Wrench	WSS2	WSS2	WSS2
4	Chisel	B88046	A94057	A94057
5	Chisel Holder	A90002	B86215	B86215
6	Spacers Set		A99077	A99077
7	Set Screw for Chisel Holder	SSN04-20	SS#6-32	SS#6-32
8	Allen Wrench for Chisel Holder		WSS1	WSS1
9	Hydraulic Cylinder	C-10	C-25	C-25
10	Quick Disconnect Female	C-604	C-604	C-604
11	Toolbox	25TB	25TB	25TB
12	Toolbox insert	25TBI	25TBI	25TBI

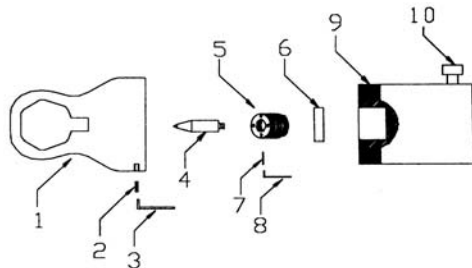


Figure 2

PARTS LIST Type 2

Type 2 Auto-Splitters have a cylinder with threaded bolt holes in the piston rod and chisel holders that use socket head cap screws. (See Figure 5)

Item	Description	AS204AH	AS210AH	AS308AH	AS314AH
1	Housing	B95107	A92027	B95109	A92028
2	Set Screw	SSB6-16	SSB6-16	SSB6-16	SSB6-16
3	Allen Wrench	WSS3	WSS3	WSS3	WSS3
4	Chisel	A92031	A92031	A92032	A92032
5	Chisel Holder	B87089	B87089	B87089	B87089
6	Spacer Set	A99001	A99001	A91001	A92034
7	Set Screw for Chisel	SSN4-20	SSN4-20	SSN4-20	SSN4-20
8	Allen Wrench	WSS2	WSS2	WSS2	WSS2
9	Hydraulic Cylinder	C-55	C-55	C-100	C-100
10	Quick Disconnect Female	C604	C604	C604	C604
11	Allen Wrench for Cap Screws	WSS5	WSS5	WSS5	WSS5
12	Socket Head Cap Screws	SHCS6-12 SHCS6-20	SHCS6-12 SHCS6-20	SHCS6-12 SHCS6-20	SHCS6-12 SHCS6-20
13	Handle for Housing	A92030	A92030	A92030	A92030
14	Toolbox	55TB	55TB	100TB	100TB
15	Toolbox Insert	55TBI	55TBI	100TBI	100TBI

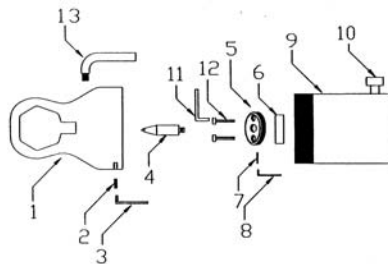


Figure 3

ASSEMBLY

There are two types of Auto-Splitter nut splitters. The only design difference between the two is the chisel holder. See Figures 4 & 5, and the table below.

FOR TYPE 1



Figure 4

FOR TYPE 2



Figure 5

The assembly directions are separated into two sections: Section 1 applies only to Type 1 splitters, Section 2 applies only to Type 2 splitters. Refer to the table below to find which type of Auto-Splitter assembly directions to follow.

TYPE 1	TYPE 2
AS100	AS204AH
AS105AH	AS210AH
AS200AH	AS308AH
	AS314AH

SECTION 1—ASSEMBLY DIRECTIONS TYPE 1

Type 1 Auto-Splitters have externally threaded chisel holders with internal threads in the piston rod. (See Figure 4)

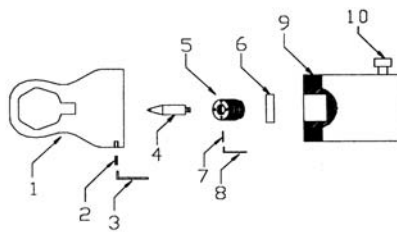


Figure 6

1. Unscrew the chisel holder (5) from cylinder (9).
 2. Place the cutting chisel (4) in the drilled hole in the chisel holder (5). Insert the set screw (7) into the side of the chisel holder and tighten, using the provided Allen Wrench (8).
- NOTE:** Do not over-tighten the set screw. The chisel should be free to turn.
3. Drop spacer with printed size face up into cylinder (6)*.

NOTE: Each Auto-Splitter is designed to cut a wide range of sizes. This is achieved by using calibration spacers. For example: to cut a 1-7/8" nut (AS200AH) simply insert the spacer marked 1-7/8". No other spacer is needed. The largest nut size in the range of each nut splitter does not require a spacer.

- * The AS100 does not come equipped with spacers. Explanation of how to adjust the AS100 for various nut sizes can be found at the end of this assembly section.
- 4. Screw in the chisel holder (5) until it is seated metal to metal.
WARNING: Thread the chisel holder completely. Failure to do so will result in severe damage to the cylinder rod and chisel holder.
- 5. Connect the quick disconnect (10) to a hydraulic pump using a 10,000 PSI hydraulic hose. Refer to Power Requirements on Page 3 for appropriate hose and pump.
- 6. Extend cylinder rod; HOLD in the extended position.
- 7. Place the housing (1) on the hydraulic cylinder (9). The chisel (4) will project into the housing. Make sure that the longest edge of the chisel is on the same side as the slope of the housing (1). See Figure 7.
- 8. Completely thread the housing onto the cylinder while holding the cylinder extended. Back the housing off one full turn.* Lock in place by inserting the set screw (2) on the side of the housing and tightening with the Allen Wrench (3).
- ◆ The AS100 should be adjusted according to the table on the next page, for various nut sizes. (See Table 1 on Page 10)

Nut Size—ATF	# Of Turns To Back Off Housing
1/2"	1/4 turn, with spacer in
9/16"	1/2 turn, with spacer in
11/16"	2 turns, with spacer in
3/4"	2-3/4 turns, with spacer in
15/16"	1-1/2 turn, with spacer out

Table 1

Please note that these are only guidelines, and adjustments may be necessary.

9. Retract the cylinder rod - the cylinder will retract.
10. Proceed to the Operation Section of this manual.

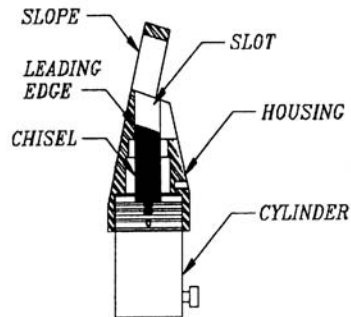


Figure 7

SECTION 2—ASSEMBLY DIRECTIONS TYPE 2

Type 2 Auto-Splitters have a cylinder with threaded bolt holes in the piston rod and chisel holders that use socket head cap screws. (See Figure 5)

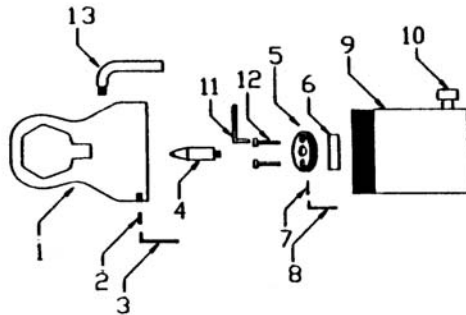


Figure 8

1. Remove the two socket head cap screws (12) from the cylinder (9) using the Allen Wrench (11).
 2. Place the cutting chisel (4) into the center drilled hole in the chisel holder (5). Insert the set screw (7) into the side of the chisel holder and tighten using the provided Allen Wrench (8).
- NOTE:** Do not over-tighten the set screw. The chisel should be free to turn.
3. Line up the holes of the spacer (6) (when needed) and the chisel holder (5) with the bolt holes in the cylinder (9). Use the socket head cap screws (12)* to bolt the spacer and chisel holder onto the cylinder.

* Some splitter models are equipped with two lengths of cap screws to accommodate spacer thickness. The cap screws should be long enough to fasten the spacer and chisel holder to the cylinder. Make sure that the cap screws are not too long. If the longer screws are used without spacers, the chisel holder will not be held tightly in place.

NOTE: Each Auto-Splitter is designed to cut a wide range of nut sizes. This is achieved by using calibration spacers. For example, to cut a 1-7/8" nut (AS204AH) simply insert the spacer marked 1-7/8". No other spacer is needed. The largest nut size in the range of each nut splitter does not require a spacer. The only exception is the AS100, which does not come equipped with spacers.

4. Connect the quick disconnect (10) to a hydraulic pump using a 10,000 PSI hydraulic hose. Refer to Power Requirements on Page 3 for appropriate hose and pump.
5. Extend cylinder rod; HOLD in the extended position.
6. Place the housing (1) on the hydraulic cylinder (9). The chisel (4) will project into housing. Make sure that the longest edge of the chisel is on the same side as the slope of the housing (1). See *Figure 9*.

7. Completely thread the housing onto the cylinder while the chisel is extended. Back off the housing one full turn. Lock in place by inserting the set screw (2) on the side of the housing and tightening with the Allen Wrench (3).
8. Retract the cylinder rod—the chisel will retract.
9. Proceed to the Operation Section of this manual.

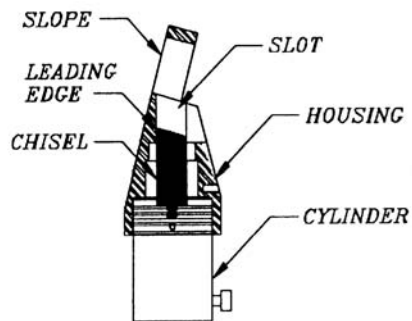


Figure 9

OPERATION

NOTE: Read and follow the assembly instructions and safety tips before operating the Auto-Splitter.

1. Lubricate the tip of the chisel with an anti-seize lubricant before each cut. **FASTORQ® 70+** lubricant is recommended.
2. Place the internal hex of the housing over the nut. Pull the housing against the back side of the nut, with the nut centered on the back side of the internal hex. The housing of the nut splitter should be flat on the surface of the flange. The cutting chisel should be as close to the bottom of the nut as possible and be centered on a flat of the nut. See Figure 10.

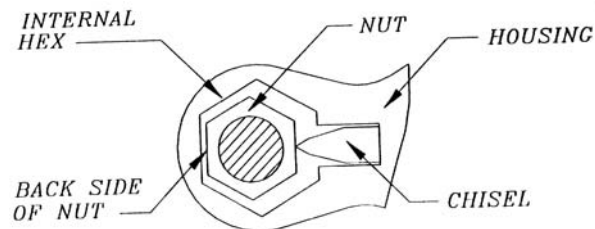


Figure 10

3. Extend the chisel slowly until it makes contact with the nut face. Check that the chisel is resting squarely on the center of the nut flat. See Figure 11.

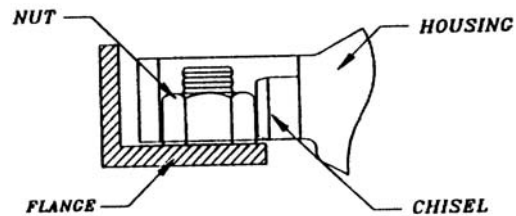


Figure 11

4. Continue to apply hydraulic pressure to the cylinder until the nut is severed. A loud pop will occur, signifying that the nut is split.

NOTE: For complete nut removal, it may be necessary to cut the opposite face of the nut so that it falls away from the stud. If a second cut is required, proceed with the following steps.

5. Rotate the nut 180 degrees, after the first face has been split. An oversized wrench or hammer may be required to turn the nut.
6. Split the second face. Return to step 1 and follow the same procedure.

MAINTENANCE

The Auto-Splitter is designed to be a low maintenance tool. The following should be done on a regular basis to increase the longevity of the tool:

- Always lubricate the chisel point with **FASTORQ® 70+** an anti-seize lubricant before each cut.
- Do not let the chisel get dull. Re-sharpen the chisel with a hand whetstone or slowly with a grinder. Be sure to keep the chisel wet while sharpening.
- Replace the dust covers on the quick disconnects and thread protectors on the cylinder after each use.
- Store the Auto-Splitter in its custom-made toolbox when not in use.

TROUBLE-SHOOTING TABLE

Problem	Possible Causes	Possible Solutions
Cylinder does not hold pressure	<ol style="list-style-type: none"> 1. Cylinder seal leaking 2. Leaking connection 3. Pump malfunction 	<ol style="list-style-type: none"> 1. Change cylinder 2. Tighten connections 3. Change pump
Cylinder does not advance or advances partially	<ol style="list-style-type: none"> 1. Pump release valve open 2. Not enough oil in pump 3. Air in system 4. Couplers not tightened 5. Pump reservoir too small 	<ol style="list-style-type: none"> 1. Close valve 2. Add oil 3. Bleed air 4. Fully tighten couplers 5. Change pump (use one w/ larger reservoir)
Cylinder advances slowly	<ol style="list-style-type: none"> 1. Leaking connection 2. Restricted hydraulic hose or fitting 3. Loose coupler 4. Pump flow rate too slow 	<ol style="list-style-type: none"> 1. Tighten connections 2. Change hoses or fittings 3. Tighten couplers 4. Change pump (use one w/ faster flow rate)
Cylinder does not retract, retracts slowly or retracts partially	<ol style="list-style-type: none"> 1. Pump release valve closed 2. Coupler not fully closed 3. Blocked hydraulic hose 4. Damaged retraction spring in cylinder (AS100-AS314H only) 5. Pump reservoir overfilled 	<ol style="list-style-type: none"> 1. Open valve 2. Close coupler 3. Replace hoses 4. Replace spring 5. Remove excess oil
Chisel does not penetrate nut	<ol style="list-style-type: none"> 1. Inadequate pump pressure 2. Using incorrect spacer 3. Chisel edge dull 4. Housing not fully threaded 	<ol style="list-style-type: none"> 1. Increase to 10,000 PSI 2. Change spacers 3. Sharpen or replace chisel 4. Thread housing all the way
Chisel cuts through nut & damages the stud	<ol style="list-style-type: none"> 1. Using incorrect spacer 2. Housing threaded more than necessary 	<ol style="list-style-type: none"> 1. Check spacer size, change spacer 2. Back housing off a half turn at a time

FREQUENTLY ASKED QUESTIONS

How many cuts will the chisel make?

Dozens of cuts have been achieved before sharpening with proper maintenance and operation. It is recommended to have two chisels on every job to be used alternately without letting any one chisel get too dull.

Can I sharpen the chisel?

Yes, but ensure that the chisel stays cool while sharpening. Refer to the Maintenance section on page 16 for further instructions.

How do I know what size power unit to use?

All nut splitter models require 10,000 PSI. Refer to the Power Requirements Section on Page 3 for pump specifications.

Must I always have 10,000 PSI capability?

Yes, regardless of the nut splitter model or the nut size.

Why is my nut splitter not cutting?

Make sure that you have 10,000 PSI, check couplers for tight connections, refer to the troubleshooting guide.

How can I be sure not to cause sparks?

Spray water or steam on cutting chisel during use.

AUTO-SPLITTER MODELS

Choose the right Auto-Splitter for your needs.

Reference Table below and Figure 12
for Auto-Splitter dimensions.

Model	Stud Diameter	Nut ATF	A	B	C	D	E	F	Weight
AS100	5/16—5/8" 8-16 mm	1/2" - 1" 13-24 mm	11/16" 17.5 mm	8" 203 mm	30"	1/4" 6 mm	1-1/16" 27 mm	2-3/4" 70 mm	7 lbs 3.2 kg
AS105AH	7/16 - 7/8" 11-22 mm	5/8" - 1-7/16" 16-36 mm	1-1/8" 28.6 mm	11" 279.4 mm	60"	1/2" 12.7 mm	1-1/2" 38.1 mm	4" 101.6 mm	20 lbs 9 kg
AS200AH	7/8" - 1-1/4" 22-32 mm	1-7/16" - 2" 36-51 mm	1-1/4" 31.7 mm	11-3/4" 298.4mm	45"	1/2" 12.7 mm	2-1/8" 54 mm	4" 101.6mm	21 lbs 9.5 kg
AS204AH	1-1/4" - 1-1/2" 32-38 mm	1-13/16" - 2-3/8" 46-60 mm	1-5/8" 41.3 mm	16" 406.4 mm	30"	9/16" 14.3 mm	2-1/2" 63.5 mm	6" 152.4mm	61 lbs 27.7 kg
AS210AH	1-3/8" - 1-3/4" 35-45 mm	2-1/4" - 2-3/4" 57-70 mm	1-7/8" 47.6 mm	16" 406.4 mm	30"	3/4" 19 mm	2-7/8" 73 mm	6" 152.4 mm	62 lbs 28.2 kg
AS308AH	1-3/4" - 2-1/4" 45-57 mm	2-3/4" - 3-1/2" 70-89 mm	2-1/4" 57.1 mm	17-3/4" 450.8 mm	30"	3/4" 19 mm	3-7/8" 98.4mm	7-1/4" 184.2 mm	95 lbs. 43.2 kg
AS314AH	2" - 2-1/2" 50-64 mm	3-1/8" - 3-7/8" 79.98mm	2-1/2" 63.5 mm	18" 457.2 mm	30"	7/8" 22.2 mm	4-1/4" 108 mm	7-1/4" 184.2 mm	100 lbs 45.4 kg

**Auto-Splitter
Angle-head**

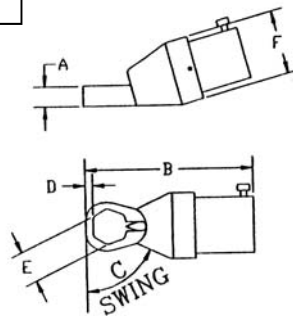


Figure 12

LIMITED WARRANTY

FASTORQ[®] warrants its products against defects in workmanship and materials for 180 days from date of delivery to customer. Warranty does not cover ordinary wear and tear, abuse, misuse, overloading or altered products.



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