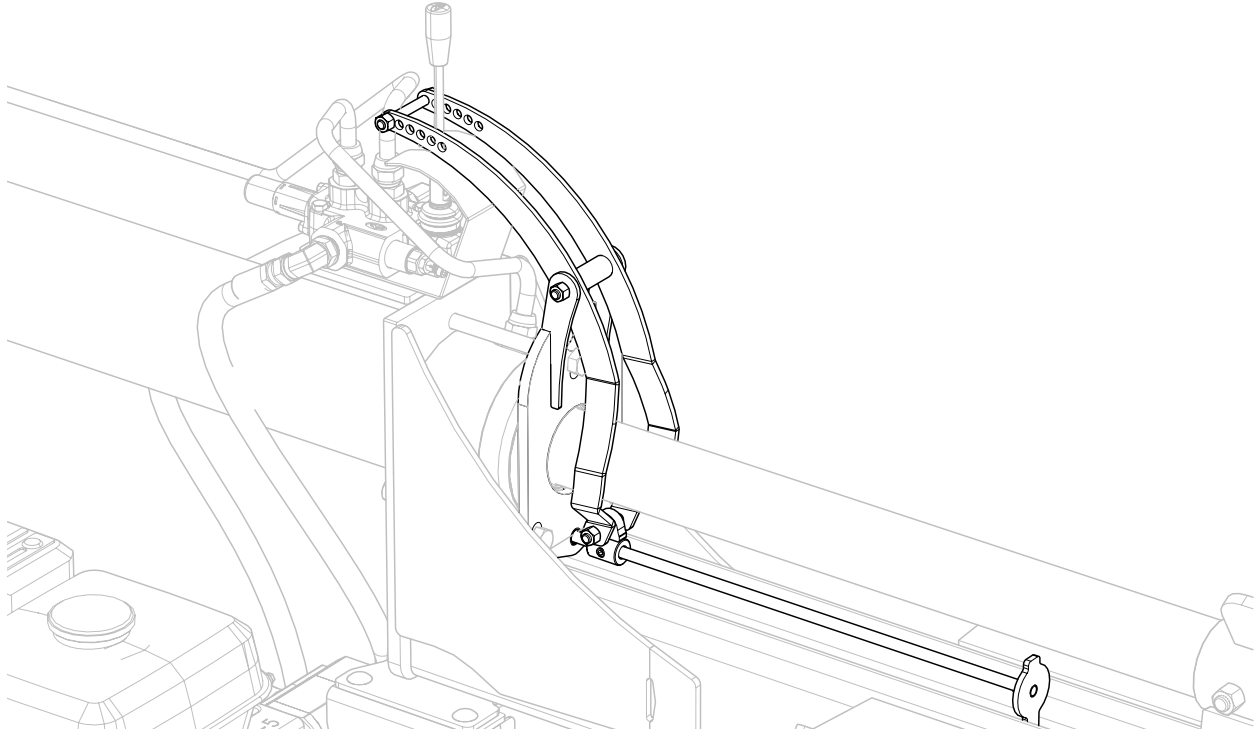




EMB Manufacturing Inc.  
4144 Boomer Line · St. Clements, Ontario · N0B 2M0 · Canada  
[www.wallensteinequipment.com](http://www.wallensteinequipment.com)



# **W4213 & W4214**

## **SPLITTER STROKE LIMITER**

### **Accessory Installation Instructions**

**See inside cover for splitter compatibility chart**



Do not attempt to start or operate the equipment without thoroughly reviewing this manual for safe and proper operation.

**Keep this manual with the  
machine at all times**

# SAFETY ALERT SYMBOL

This Safety Alert symbol means  
**ATTENTION! BECOME ALERT!**  
**YOUR SAFETY IS INVOLVED!**



The Safety Alert symbol identifies important safety messages on the Surge Master Wood splitter and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

## 3 Big Reasons

**Accidents Disable and Kill**  
**Accidents Cost**  
**Accidents Can Be Avoided**

### SIGNAL WORDS:

Note: The use of the signal words **DANGER**, **WARNING**, **CAUTION** and **NOTICE** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

**DANGER** - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

**WARNING** - Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

**CAUTION** - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTICE** - Indicates a situation that could result in damage to the machine or other property.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or EMB Mfg, 4144 Boomer Line, St. Clements, ON, N0B 2M0. Phone (519) 699-9283 or Fax (519) 699-4146.


## Splitter Compatibility Chart for Stroke Limiter Kits W4213 & W4214

This kit will work on older version wood splitters  
equipped with auto return detent valve.


| MODEL         | stroke limiter<br>(4.0" -4.5"<br>cylinder) | stroke limiter<br>(5.0" cylinder) |
|---------------|--|-----------------------------------|
|               | 2089A210                                   | 2089A215                          |
| Wallenstein   | W4213                                      | W4214                             |
| <b>WX310</b>  | x  |                                   |
| <b>WX320</b>  | x  |                                   |
| <b>WX330</b>  | x  |                                   |
| <b>WX350</b>  | x  |                                   |
| <b>WX360</b>  |  | x                                 |
| <b>WX370</b>  | x  |                                   |
| <b>WX440</b>  |  |                                   |
| <b>WX450</b>  |  | x                                 |
| <b>WX460</b>  |  | x                                 |
| <b>WX470</b>  | x  |                                   |
| <b>WX510</b>  | x  |                                   |
| <b>WX515</b>  | x  |                                   |
| <b>WX520</b>  | x  |                                   |
| <b>WX520T</b> | x  |                                   |
| <b>WX530</b>  | x  |                                   |
| <b>WX540</b>  | x  |                                   |
| <b>WX615</b>  | x  |                                   |
| <b>WX620</b>  | x  |                                   |
| <b>WX620T</b> | x  |                                   |
| <b>WX630</b>  | x  |                                   |
| <b>WX640</b>  | x  |                                   |
| <b>WX910</b>  | x  |                                   |
| <b>WX910T</b> | x  |                                   |
| <b>WX920</b>  | x  |                                   |
| <b>WX930</b>  | x  |                                   |
| <b>WX980</b>  |  | x                                 |
| <b>WXR720</b> | x  |                                   |
| <b>WXR740</b> | x  |                                   |

# Accessory Installation Instructions

## W4213 & W4214 SPLITTER STROKE LIMITER KITS

 Always wear the appropriate safety gear when installing this kit or working around the machine. This includes but is not limited to:

- Hard hat for protection to the head.
- Safety glasses protection for the eyes.
- Gloves for hand protection.
- Safety shoes with slip resistant soles and steel toes.

 **Caution:** this kit is constructed of heavy gauge steel, be sure to use caution moving and installing the kit, avoid dropping or pinching body parts on corners and edges of the kit.

The purpose of the **Stroke Limiter** kit is to reduce wasted time and increase throughput of the splitter by eliminating the waiting time for the cylinder to return to its home position or manually stop the cylinder.

When splitting shorter pieces of wood, to save time the only choice the operator has is to manually stop the cylinder, (instead of waiting for it to return home and automatically stop) and load the next short piece to continue on.

The **Stroke Limiter** kit is designed to enable the operator to adjust the point the cylinder automatically stops, limiting the length of the advance & return stroke, facilitating “**hands free return, auto neutral**” feature that automatically stops the cylinder when it returns to its home position.

There are 2 **Stroke Limiter Kits**:


**W4213 Splitter Stroke Limiter Kit for 4.0 - 4.5” Splitter Cylinder**

**W4214 Splitter Stroke Limiter Kit for 5.0” Splitter Cylinder**

See the chart on page 3 to ensure you have the correct kit for your model splitter.

This manual features WXR720 Firebolt Log Splitter fixed wedge and a W4213 kit installed. Both stroke limiter kits install in the same way on fixed wedge or fixed anvil models. Installation and setup instructions apply to both kits unless specified. Please read this manual thoroughly.


The **Stroke Limiter** kit comes partially assembled. Illustrations show typical assembly. This assembly procedure is one time only. Once assembled, only regular maintenance and minor adjustments are required. Tighten all hardware using the “Bolt Torque” chart at the back of this manual unless otherwise specified.

 **Notice:** Read and follow installation and setup instructions.

A hazardous condition exists if the unit is improperly installed, or if the kit is modified or changed in any way. Damage to the machine or accessory will result.

**Note:** Approximately 2” of capacity will be used for the stroke limiter kit installation. Full capacity can be regained by removing the trip lever, adjuster rod assembly. Cylinder retaining plate remains in place.

W4213 shown installed

 **Caution:** Review your splitter manual for safe operating and handling procedures before beginning work.

# INSTALLATION INSTRUCTIONS



Ensure your wood splitter and the area around it is clean and free of debris, resting on dry level ground, wheel chock applied and the engine shut off. Have the stroke limiter kit and tools close by on a work surface.

Unpack the stroke limiter kit. Lay the parts out on the work surface and use the parts list in the back of this manual to check that all parts are included. All hardware and small parts are assembled to the parts.

## ASSEMBLY

Basic tools needed:

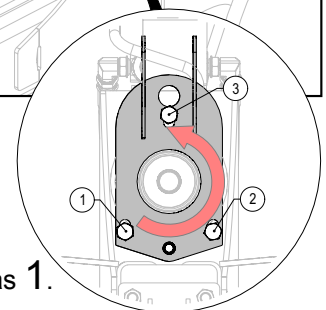
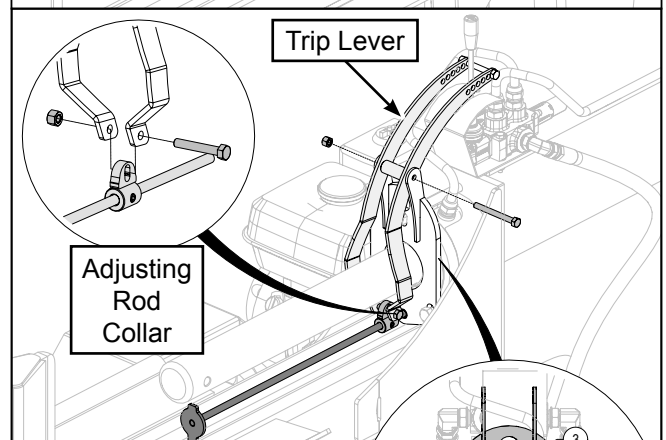
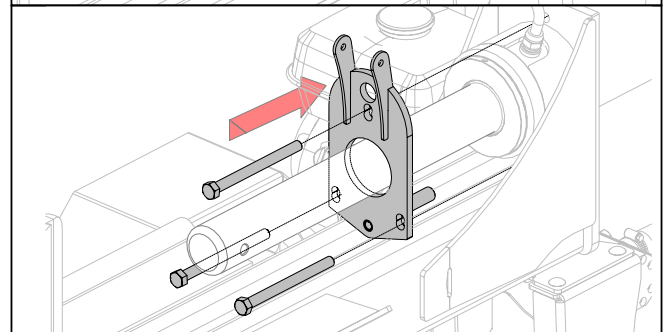
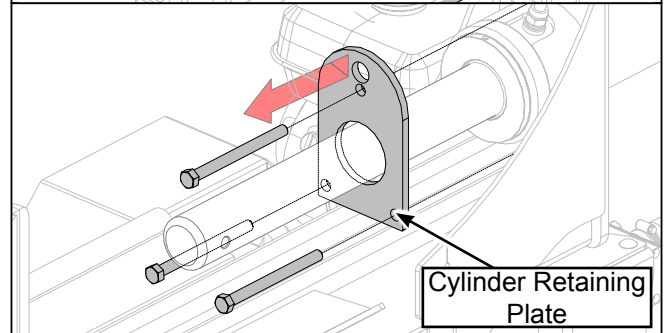
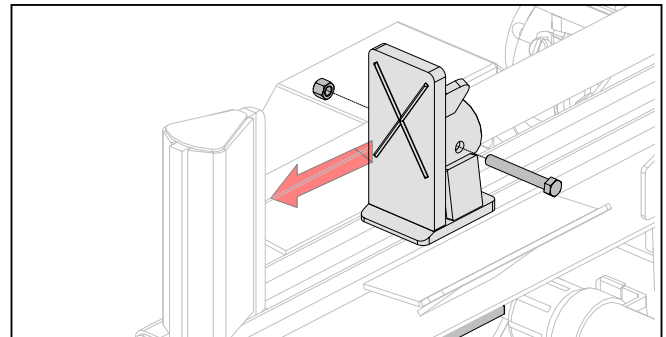
- 1/2" wrenches or sockets
- 5/32" hex wrench or use included "T" hex wrench
- 3/4" wrench or socket

1. Begin by unbolting the push block or wedge from the Cylinder rod, then push it forward out of the way.
2. Next, remove the 3 bolts that hold on the cylinder retaining plate. Set bolts aside, you'll need them for the new plate. Remove the cylinder plate.
3. Install the new cylinder plate where the old one was. Find the bolts you set aside, install and hand tighten bolts only. These bolts will require torquing at the final stage.
4. Assemble the rod adjusting collar to the trip lever weldment as shown. Bolt the trip lever assembly to the new cylinder plate. Tighten the lock nuts on to the bolts but ensure that the lever and collar move freely and smoothly. Do not torque.



**Notice:** Ensure the trip lever weldment and the rod adjusting collar move freely and smoothly. Failure to do so could cause improper function.

5. Slide the anvil or wedge up to the cylinder rod and reassemble : if the rod bolt hole is out of alignment, turn the rod using a stout punch. Ensure the bolt is tightened according to the torque chart located in this manual.
6. Power up the splitter and carefully extend the anvil or wedge to the end of the stroke, and shut off the power source.
7. The cylinder is now aligned with the anvil or wedge. Begin tightening up the cylinder retaining plate bolts:



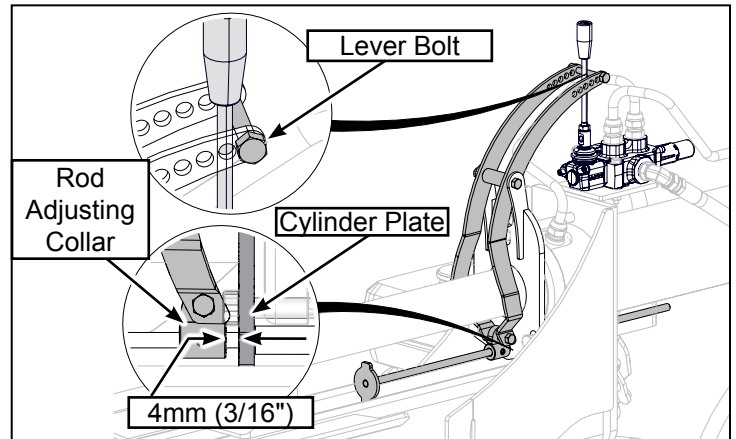
- Start with the bolt indicated as 1.
- Tighten in a counter clockwise pattern in 2-3 steps
- Torque bolts according to torque chart

## SETUP

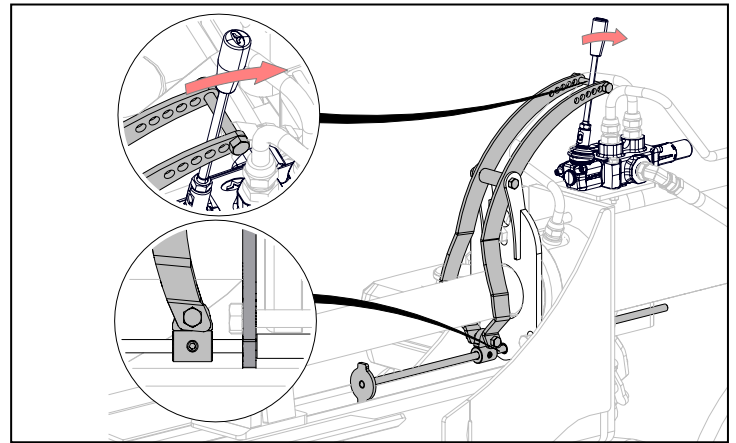
1. With the hydraulic control lever in the neutral position, move the trip lever so that there is approximately 4 mm (3/16") between the adjusting rod collar and the cylinder plate. You may have to move the lever bolt to another position on the trip lever, depending on which model and age of the splitter you have. Once this step is complete, it will not have to be repeated.



**Caution:** Ensure the hydraulics are not powered and the engine is off when setting up the stroke adjuster. Potential injury to the operator or others may result.

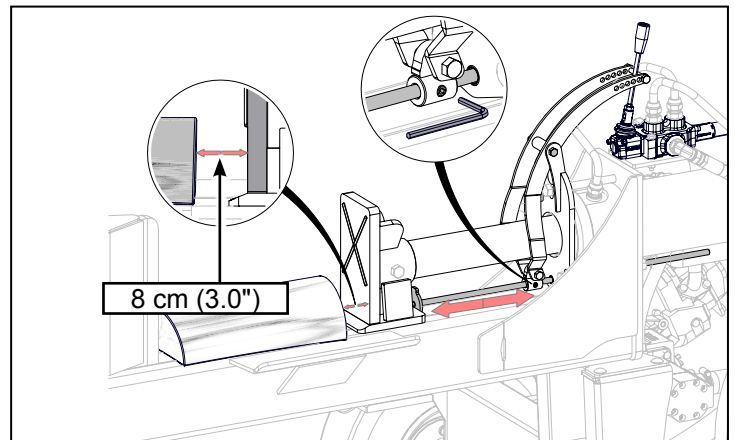


2. Move the hydraulic control lever to the return (detent) position, the rod adjusting collar will move away from the cylinder plate.
3. Tighten the hex set screw on the collar, then test the setup by pushing on the adjuster rod. The hydraulic control lever should pop out of detent before the rod adjusting collar contacts the cylinder plate.
4. If the lever does not come out of detent, then the lever bolt assembly will have to be adjusted. Repeat the test.



## STROKE ADJUSTMENT SET UP

1. Place the log on the splitter bed, then start / apply power to the wood splitter.
2. Using the hydraulic control, move the anvil or wedge up to the log, but stop the anvil/wedge approximately 8 cm (3.0") from the log. More or less space may be required depending on the range of sizes your logs are.
3. Shut off the engine or power source
4. Move the hydraulic control lever to the return (detent) position.
5. Loosen the hex set screw on the rod adjusting collar, and move the rod up to the anvil/wedge. This is the set position at which the anvil or wedge will stop on the return cycle.
6. Put the hydraulic control in neutral, start / apply power to the wood splitter,
7. Test the set up by advancing the anvil/wedge, split the log then put the hydraulic lever into the return (detent) position. The lever will trip the hydraulic control and the anvil/ram will stop at the set position.



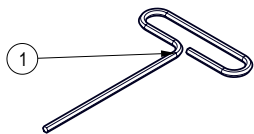
**Caution:** Review your splitter manual for safe operating and handling procedures before beginning work.



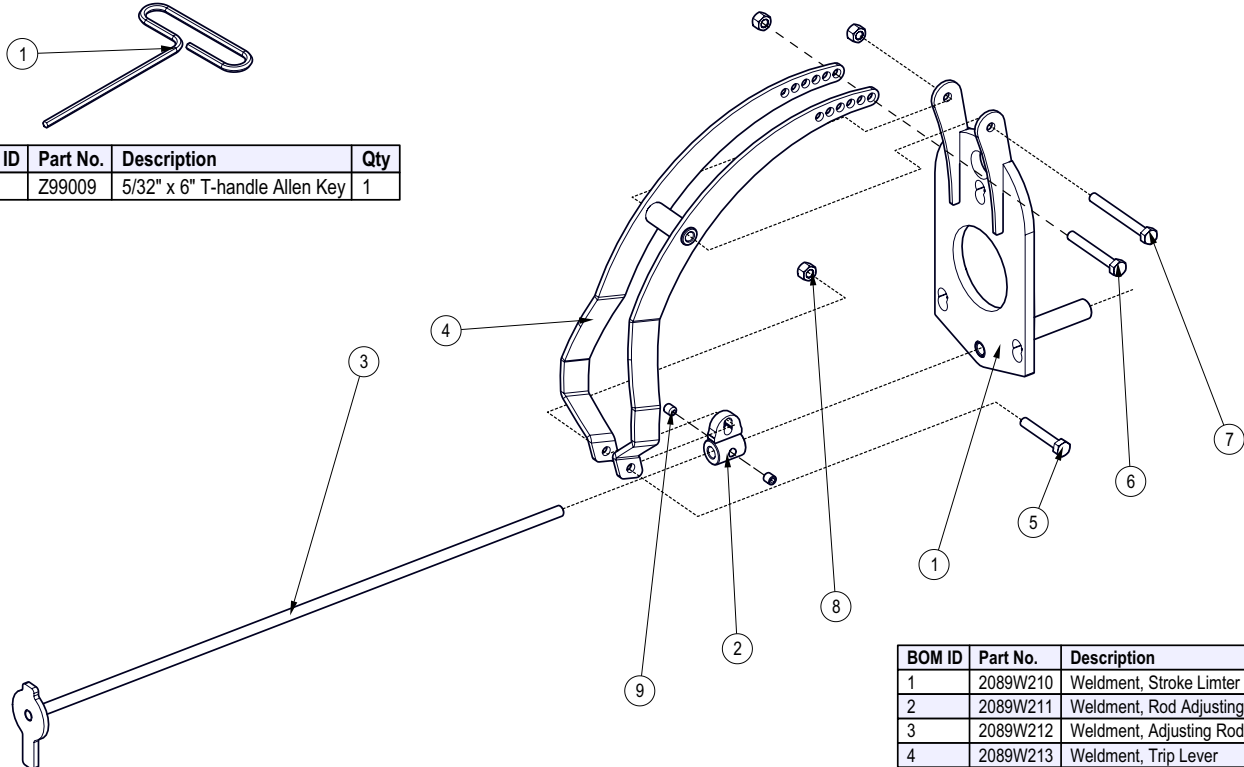
**Warning:** Only one worker should operate and load the splitter. A potentially dangerous pinching or crushing hazard arises when the worker loading the machine does not control the hydraulic ram.

## W4213 Parts Breakdown

## W4213 Splitter Stroke Limiter Kit for 4.0 - 4.5" Splitter Cylinder



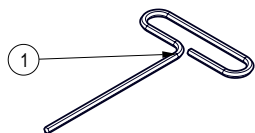
| BOM ID | Part No. | Description                   | Qty |
|--------|----------|-------------------------------|-----|
| 1      | Z99009   | 5/32" x 6" T-handle Allen Key | 1   |



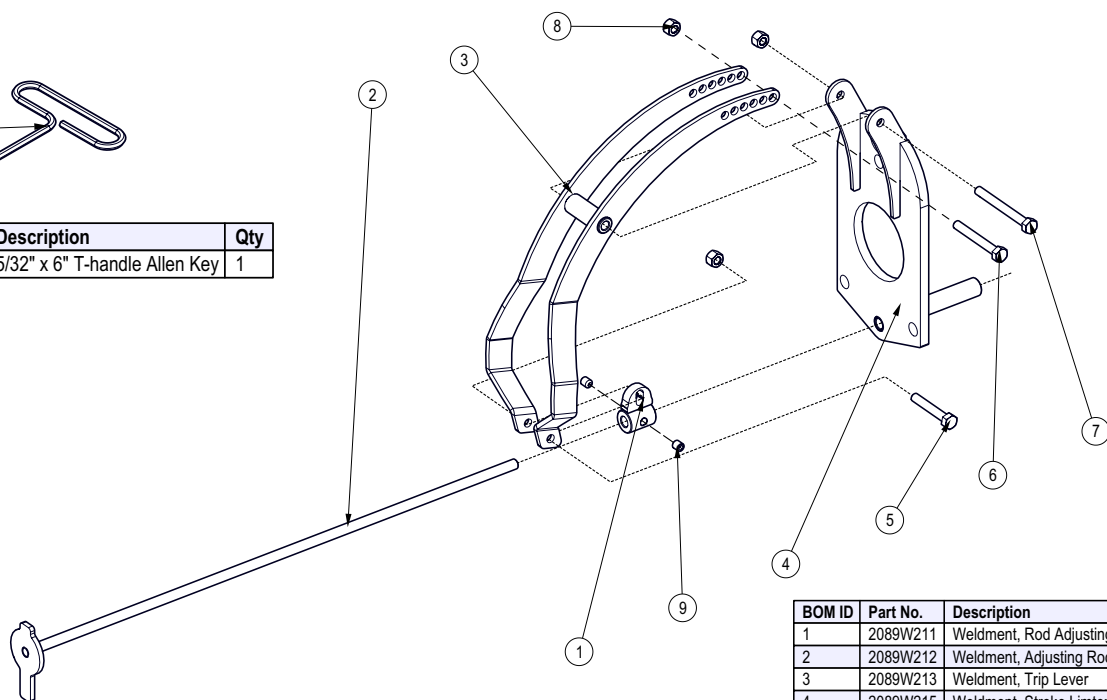
| BOM ID | Part No. | Description                    | Qty |
|--------|----------|--------------------------------|-----|
| 1      | 2089W210 | Weldment, Stroke Limiter Cap   | 1   |
| 2      | 2089W211 | Weldment, Rod Adjusting Collar | 1   |
| 3      | 2089W212 | Weldment, Adjusting Rod        | 1   |
| 4      | 2089W213 | Weldment, Trip Lever           | 1   |
| 5      | Z71220   | Hex Bolt, 5/16NC x 2"          | 1   |
| 6      | Z71225   | Hex Bolt, 5/16NC x 2-1/2"      | 1   |
| 7      | Z71230   | Hex Bolt, 5/16NC x 3"          | 1   |
| 8      | Z72221   | Hex Lock Nut, 5/16NC           | 3   |
| 9      | Z74122   | Set Screw, 5/16NF x 3/8"       | 2   |

## W4214 Parts Breakdown

## W4214 Splitter Stroke Limiter Kit for 5.0" Splitter Cylinder



| BOM ID | Part No. | Description                   | Qty |
|--------|----------|-------------------------------|-----|
| 1      | Z99009   | 5/32" x 6" T-handle Allen Key | 1   |



| BOM ID | Part No. | Description                     | Qty |
|--------|----------|---------------------------------|-----|
| 1      | 2089W211 | Weldment, Rod Adjusting Collar  | 1   |
| 2      | 2089W212 | Weldment, Adjusting Rod         | 1   |
| 3      | 2089W213 | Weldment, Trip Lever            | 1   |
| 4      | 2089W215 | Weldment, Stroke Limiter 5" Cap | 1   |
| 5      | Z71220   | Hex Bolt, 5/16NC x 2"           | 1   |
| 6      | Z71225   | Hex Bolt, 5/16NC x 2-1/2"       | 1   |
| 7      | Z71230   | Hex Bolt, 5/16NC x 3"           | 1   |
| 8      | Z72221   | Hex Lock Nut, 5/16NC            | 3   |
| 9      | Z74122   | Set Screw, 5/16NF x 3/8"        | 2   |

## Bolt Torque

### CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

\* Torque value for bolts and capscrews are identified by their head markings.

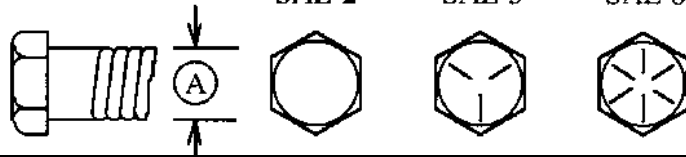
### ENGLISH TORQUE SPECIFICATIONS

| Bolt Diameter "A" | Bolt Torque*           |     |                        |     |                        |     |
|-------------------|------------------------|-----|------------------------|-----|------------------------|-----|
|                   | SAE 2<br>(N.m) (lb-ft) |     | SAE 5<br>(N.m) (lb-ft) |     | SAE 8<br>(N.m) (lb-ft) |     |
| 1/4"              | 8                      | 6   | 12                     | 9   | 17                     | 12  |
| 5/16"             | 13                     | 10  | 25                     | 19  | 36                     | 27  |
| 3/8"              | 27                     | 20  | 45                     | 33  | 63                     | 45  |
| 7/16"             | 41                     | 30  | 72                     | 53  | 100                    | 75  |
| 1/2"              | 61                     | 45  | 110                    | 80  | 155                    | 115 |
| 9/16"             | 95                     | 60  | 155                    | 115 | 220                    | 165 |
| 5/8"              | 128                    | 95  | 215                    | 160 | 305                    | 220 |
| 3/4"              | 225                    | 165 | 390                    | 290 | 540                    | 400 |
| 7/8"              | 230                    | 170 | 570                    | 420 | 880                    | 650 |
| 1"                | 345                    | 225 | 850                    | 630 | 1320                   | 970 |

SAE-2

SAE-5

SAE-8



### METRIC TORQUE SPECIFICATIONS

| Bolt Diameter "A" | Bolt Torque*         |      |                       |      |
|-------------------|----------------------|------|-----------------------|------|
|                   | 8.8<br>(N.m) (lb-ft) |      | 10.9<br>(N.m) (lb-ft) |      |
| M3                | 0.5                  | 0.4  | 1.8                   | 1.3  |
| M4                | 3                    | 2.2  | 4.5                   | 3.3  |
| M5                | 6                    | 4    | 9                     | 7    |
| M6                | 10                   | 7    | 15                    | 11   |
| M8                | 25                   | 18   | 35                    | 26   |
| M10               | 50                   | 37   | 70                    | 52   |
| M12               | 90                   | 66   | 125                   | 92   |
| M14               | 140                  | 103  | 200                   | 148  |
| M16               | 225                  | 166  | 310                   | 229  |
| M20               | 435                  | 321  | 610                   | 450  |
| M24               | 750                  | 553  | 1050                  | 774  |
| M30               | 1495                 | 1103 | 2100                  | 1550 |
| M36               | 2600                 | 1917 | 3675                  | 2710 |

