# Automated Steering Kit Installation Guide

***Kit: EDX-NH8070, P/N 911-2011-000***

## Fits New Holland and Buhler Genesis Tractor Models*:

| New Holland | Buhler |
|---|---|
| 8670 | 2145 |
| 8770 | 2160 |
| 8870 | 2180 |
| 8970 | 2210 |

**NOTE:** ** For heavy axle variants of any of the listed models there is an alternative wheel angle sensor (WAS) installation section, WAS 2. You can identify a heavy axle by the twelve wheel nuts/studs—standard axle machines have only ten wheel nuts/studs. Follow the WAS 2 installation instructions if your machine has a heavy axle.*

### Read and Follow Safety Messages

- In these instructions, you will see the heading WARNING and the safety alert symbol ⚠. They indicate a hazardous situation that, if not avoided, could result in death or serious injury. The safety messages provide information to identify a hazard associated with potential injury.
- Before installing, operating, or performing maintenance or service on any part of the system:
  - Read and understand this installation guide and all of the safety information.
  - Read and understand the Automated Steering System User Guide.
- Do not allow anyone to operate without instruction.
- Keep these instructions and all related safety information with the manuals for your machine and other implements.

If you have questions or need assistance, contact your local dealer or distributor.

### Overview

A series of equipment specific kits has been developed to work in conjunction with your automated steering system. For the machine models listed above, these kits contain the components for:

- the steering hydraulics
- the wheel angle sensor (WAS)
- the steering wheel switch (SWS - for steering override)

The items in each kit are detailed in the tables that follow the safety warnings starting below. After the kit tables there are four step-by-step installation sections, one for each of the kits.

Please read this manual thoroughly before beginning the installation.

**⚠WARNING:**

To avoid serious injury or death during machine operation, install the appropriate kit for your machine make and model.

## Machine Preparation

**⚠WARNING:**

Inspect the machine and perform any needed maintenance (for example, contaminated hydraulic fluid) before installing the automated steering kit. This kit cannot perform as intended on a machine that is not maintained properly. Errors in performance increase the risk of operator and bystander injury or death.

Failure to maintain clean hydraulic fluid and operational hydraulic components can cause loss of directional control resulting in serious injury or death.

To avoid serious injury, wear hand and eye protection and use wood or cardboard when checking for leaks.

Turn off the machine and power off the automated steering controller when installing or performing maintenance.

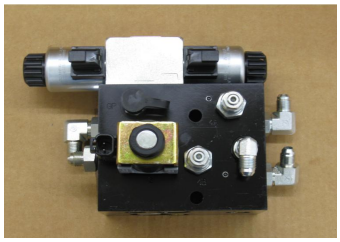
Before attempting to install any of the components, park the machine on a clean level floor with adequate clearance to work all around.

Before you perform any drilling, cutting or fastening, ensure that no other machine components, such as hydraulic hoses or electrical wiring, will be damaged. Failure to follow this warning may cause physical injury and/or damage to the machine.

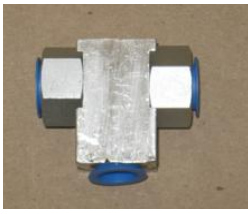
To prevent hydraulic system contamination, it is essential to thoroughly clean hydraulic system fittings and hose connections prior to disconnecting or removing. Use a degreasing solvent spray cleaner such as a brake cleaner to prevent hydraulic system contamination. Note that o-rings used on ORB and ORFF type fittings, referred to in the Kit Contents section, may be damaged by degreasing solvent cleaners. If a fitting is to be cleaned internally, you should first remove and clean the o-ring with a fiberless cloth.

## Kit Contents - Steering Hydraulics

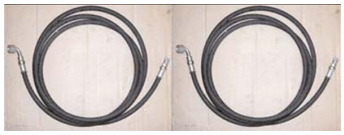
Unpack the hydraulics installation kit and identify the required parts as shown. Kit items are A, B, C etc. with an H (Hydraulic) prefix.

| REF | PART NUMBER | QTY | DESCRIPTION | PHOTOGRAPH |
|---|---|---|---|---|
| HA | 760-0020-000 | 1 | Assembly, hydraulic steering block - 15L/Prop |  |
| **Bag H1 contains HB, HC, and HD** | | | | |
| HB | 760-2058 | 1 | Adapter, hyd 90 elbow - #6maleJIC x #6maleORB<br><br>(LS [load sense] port on HA) |  |
| HC | 760-2061 | 3 | Adapter, hyd 90 elbow - #6maleJIC x #8maleORB<br><br>(A, B [steering] and T [tank] ports on HA) |  |
| HD | 760-2060 | 1 | Adapter, hyd - #6maleJIC x #8maleORB<br><br>(P [pressure] port on HA) |  |

## Kit Contents - Steering Hydraulics *(continued)*

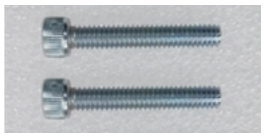
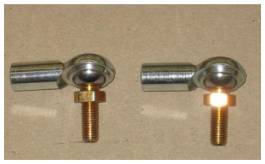
| REF | PART NUMBER | QTY | DESCRIPTION | PHOTOGRAPH |
|---|---|---|---|---|
| HE | 640-0007 | 1 | Hydraulic steering block (HA) mounting bracket |  |
| **Bag H2 contains HF** | | | | |
| HF | 675-2006 | 2 | Bolt, 3/8NC x 3-3/4" Gr5, ZP |  |
| | 678-1054 | 2 | Washer, narrow flat, 3/4"OD x 13/32"ID x 1/16" Thk, ZP | |
| | 676-1035 | 2 | Nut, nylock - 3/8NC ZP | |
| | | | (Mount HA) | |
| **Bag H3 contains HJ** | | | | |
| HJ | 675-2010 | 1 | Bolt, 5/16NC x 3/4" Gr5, ZP |  |
| | 676-1036 | 1 | Nut, lock - 5/16NC ZP | |
| | | | (Mount HE on machine - with machine's bolts) | |
| **Bag H4 contains HK, HL, and HM** | | | | |
| HK | 760-2069 | 2 | Adapter, hyd run-tee - #8ORFF |  |
| | | | (Steering lines) | |
| HL | 760-2060 | 1 | Adapter, hyd - #6maleJIC x #8maleORB |  |
| | | | (Pressure port in valve stack) | |
| HM | 760-2052 | 1 | Adapter, hyd - #6maleJIC x #12maleORB |  |
| | | | (Tank port in rear casing) | |
| **Bag H5 contains HN, HO, HP, and HQ** | | | | |
| HN | 760-0002 | 1 | Assembly, hydraulic load sense shuttle - #6femORB |  |
| HO | 760-2058 | 1 | Adapter, hyd 90 elbow - #6maleJIC x #6maleORB |  |
| | | | (LS port on HN) | |

## Kit Contents - Steering Hydraulics *(continued)*

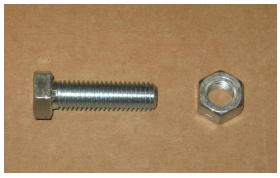
| REF | PART NUMBER | QTY | DESCRIPTION | PHOTOGRAPH |
|---|---|---|---|---|
| HP | 760-2056 | 1 | Adapter, hyd - #6maleJIC x #6maleORB<br><br>(Function port on HN) |  |
| HQ | 760-2040 | 1 | Adapter, hyd 90 elbow - #6maleORB x #6femaleORFF swivel<br><br>(Source port on HN) |  |
| HR | 760-1010 | 2 | Hose, hyd - 3/8" x 162", #6femJIC swivel x #8femORFF swivel 90 elbow<br><br>(Steering hoses) |  |
| HS | 760-1013 | 1 | Hose, hyd - 3/8" x 30", #6femJIC swivel both ends<br><br>(Pressure hose) |  |
| HT | 760-1014 | 1 | Hose, hyd - 3/8" x 22", #6femJIC swivel x #6femJIC swivel 90 elbow<br><br>(Tank hose) |  |
| HU | 760-1016 | 1 | Hose, hyd - 1/4" x 15", #6femJIC swivel 90 elbow x #6femORFF swivel<br><br>(Load sense shuttle to load sense actuator) |  |
| HV | 760-1012 | 1 | Hose, hyd - 1/4" x 48", #6femJIC swivel both ends<br><br>(Load sense hose) |  |
| HW | 677-2001 | 20 | Tie strap, 11" heavy duty |  |

## Kit Contents - Wheel Angle Sensor

Unpack the wheel angle sensor kit and identify the required parts as shown. Kit items are A, B, C etc. with a W (Wheel) prefix.

| REF | PART NUMBER | QTY | DESCRIPTION | PHOTOGRAPH |
|---|---|---|---|---|
| **Bag 710-0099-000 contains WA to WJ** | | | | |
| WA | 720-0045-000# | 1 | WAS assembly |  |
| WB | 750-5002-000 | 1 | Sensor, dual output, BEI<br>('Wire connector') |  |
| WC | 602-1087-000 | 1 | Connector arm, steering |  |
| WD | 675-1191-000 | 2 | Screw, machine, 8-32 x 3", PPH ZP |  |
| WE | 676-1054-000 | 4 | Nut, nylock 8-32NC, ZP |  |
| WF | 675-1150-000 | 2 | Screw, 8-32 x 1", Allen socket cap, ZP |  |
| WG | 675-2031-000 | 1 | Threaded rod, 5/16-24 x 12" |  |
| WH | 676-1053-000 | 4 | Nut, 5/16-24 standard ZP |  |
| WI | 760-0018-000 | 2 | Rod end swivel with stud, 5/16-24 |  |

## Kit Contents - Wheel Angle Sensor *(continued)*

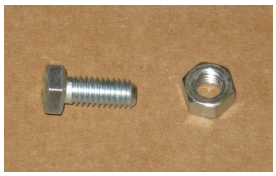
| REF | PART NUMBER | QTY | DESCRIPTION | PHOTOGRAPH |
|---|---|---|---|---|
| WJ | 675-2010 | 2 | Bolt, 5/16NC x 3/4" Gr5, ZP |  |
| | 678-1077-000 | 2 | Washer, lock 5/16, ZP |  |
| | | | (Bolt WAS assy to mounting bracket WK [standard axle models] or WM [heavy axle models]) | |
| WK | 640-0094-000 | 1 | Bracket, WAS assembly |  |
| | | | (Standard axle models - use with WL. See WM.) | |
| WL | 640-0095-000 | 1 | Bracket, WAS assembly backing |  |
| | | | (Standard axle models - use with WK. See WM) | |
| WM | 640-0126-000 | 1 | Bracket, WAS assembly |  |
| | | | (Heavy axle models - see WK and WL) | |
| **Bag W3 contains WN, WO, WP, and WQ** | | | | |
| WN | 675-2046-000 | 1 | Bolt, 1/2NC x 1-3/4", GR5 |  |
| | 676-1041 | 1 | Nut, lock - 1/2NC, ZP | |
| | | | (Standard axle models - use to join WK and WL) | |
| WO | 675-0106-000 | 1 | Clamp, 1-1/4" Polypropylene |  |
| | | | (Heavy axle models - for link rod mounting) | |
| WP | 675-2005-000 | 2 | Bolt - 3/8NC x 3-1/4" Gr5, ZP |  |
| | 676-1035 | 2 | Nut, nylock - 3/8NC, ZP | |
| | 678-1054 | 2 | Washer, flat - 3/8" | |
| | | | (Heavy axle models - use with WO) | |
| WQ | 675-2050-000 | 2 | Bolt M16-2.0 x 25mm, Gr 8.8, ZP |  |
| | 678-1056-000 | 2 | Washer, narrow flat - 5/8" | |
| | | | (Heavy axle models - use to bolt WM to axle if no fender bracket bolts to use) | |

## Kit Contents - Wheel Angle Sensor *(continued)*

| REF | PART NUMBER | QTY | DESCRIPTION | PHOTOGRAPH |
|---|---|---|---|---|
| WR | 640-0070-000 | 1 | Bracket, WAS link rod mounting<br><br>(Heavy axle models - install with WO and WP) |  |
| WS | 675-0129-000 | 1 | Clamp bracket, 1-5/8 - 1-1/2 TBOLT, SS<br><br>(Standard axle models - link rod mounting) |  |

## Kit Contents - Steering Wheel Switch

Unpack the steering wheel switch kit and identify the required parts as shown. Kit items are A, B, C etc. with an S (Switch) prefix.

| REF | PART NUMBER | QTY | DESCRIPTION | PHOTOGRAPH |
|---|---|---|---|---|
| SA | 478-0008 | 2 | Magnet, flex -1/2" W x 1" L x 1/8" Thk, plain 1 |  |
| SB | 675-0077 | 1 | Epoxy, Hardman 04001 - single double bub |  |
| SC | 602-1062 | 1 | Steering wheel switch mounting bracket |  |
| SD | 726-1054<br>or<br>051-0443-10 | 1 | Assembly, steering wheel switch |  |
| SE | 677-2002 | 4 | Tie strap, 7" releasable |  |
| **Bag S1 contains SF** | | | | |
| SF | 675-2010<br><br>676-1036 | 1<br><br>1 | Bolt - 5/16NC x 3/4" Gr5 ZP<br><br>Nut, lock - 5/16NC ZP |  |

# Installation - Automated Hydraulic Steering Kit

**⚠WARNING:**

Before installing, disconnecting or repairing the hydraulic hoses and components, turn off the machine and relieve all pressure from the hydraulic system by turning the steering wheel left and right. Failure to remove the pressure can result in serious injury or death from unexpected machine movement.

To avoid burn injury when installing, disconnecting or repairing the hydraulic hoses and components, turn off the machine and allow the system to cool down prior to touching the parts of the machine that are heated.

*See Appendix A for a schematic of the hydraulic circuits.*

**1. Prepare the hydraulic steering block.**

**NOTE:** *Make sure the hydraulic steering block (HA) is clean and dust free.*

Prepare the hydraulic steering block as follows (Figure 1):

- Adapter fitting **HB** into the **LS** port.
- Adapter fittings **HC** into the **T, A**, and **B** ports.
- Adapter fitting **HD** into the **P** port

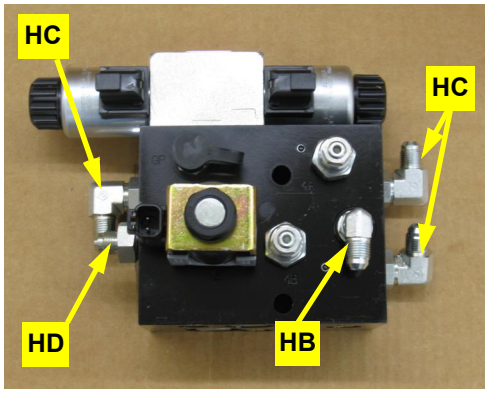


Figure 1: Prepared hydraulic steering block

**2. Install the hydraulic steering block mounting bracket.**

a. Remove the implement light located above the electric wiring connector at the back of the machine and the bolts securing the wiring connector to the light/connector mounting bracket (Figure 2a).

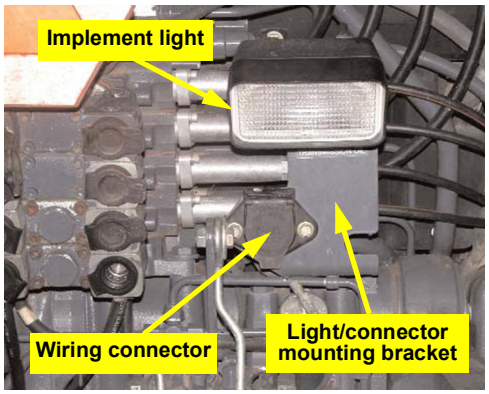


Figure 2a: Implement light, wiring connector and mounting bracket

b. Using the wire connector bolts, install the steering block mounting bracket **HE**, with its narrow side on the left, behind the wiring connector's mounting bracket (Figure 2b).

c. In the location shown, drill a 3/8″ hole through the wiring connector mounting plate and the steering block mounting bracket just installed. Using hardware **HJ,** bolt the two brackets together (Figure 2b).

d. Reinstall the implement light in its original location.

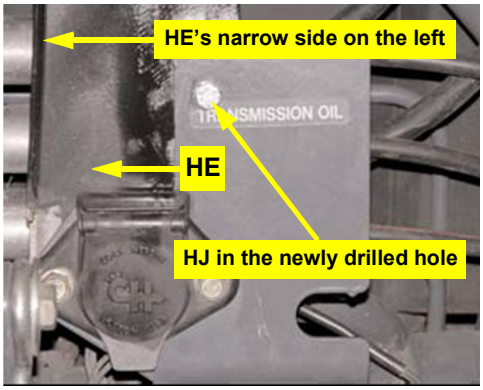


Figure 2b: Installed steering block bracket

**3. Install the hydraulic steering block.**

a. Place the hydraulic steering block **HA,** with its **A** and **B** ports toward the right rear fender**.** Using hardware **HF** secure **HA** to bracket **HE** (Figure 3).

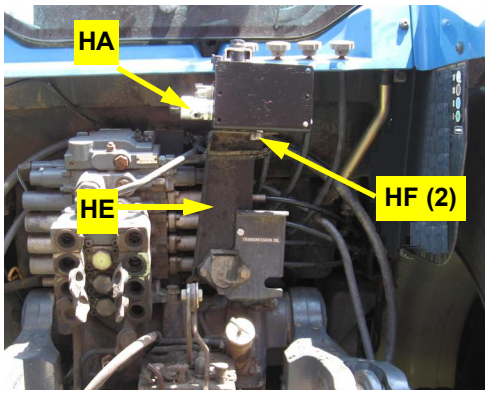


Figure 3: Installed steering block

**4. Install the steering output fittings.**

Locate the machine's steering lines on each side of the frame toward the front of the machine. Locate the junction of each steering line and the hose that links the two steering cylinders in series. Install run-tees **HK** at each junction (Figures 4-i and 4-ii).

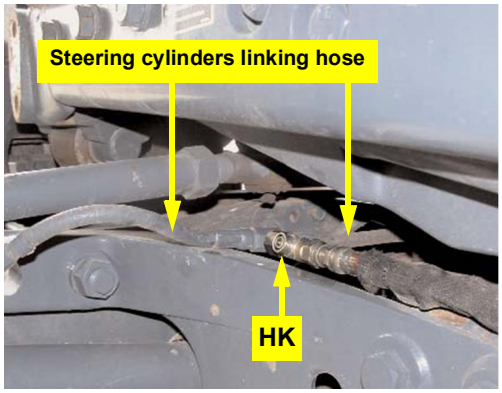


Figure 4-i: Installed run-tee (left side)

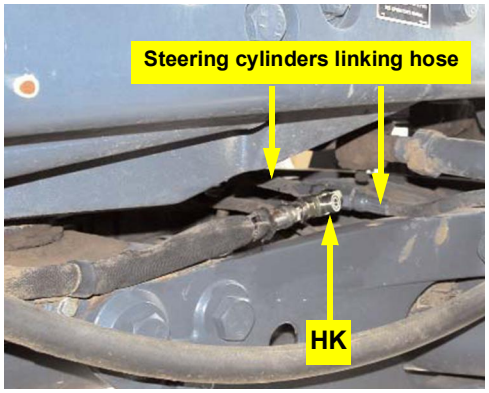


Figure 4-ii: Installed run-tee (right side)

NOTE: *Leave run-tee fittings loose to allow for alignment when attaching hoses. Plastic caps placed on the open ends of the fittings will prevent excessive leakage prior to hose installation.*

**5. Install the steering output hoses.**

a. Connect the larger o-ring elbow fitting of the steering output hoses **HR** onto the branches of the run-tee fittings **HK** installed at step 4 (Figure 5a - right side only shown).

Leave the plastic plugs in the open hose ends until you have routed the hoses back to the hydraulic steering block.

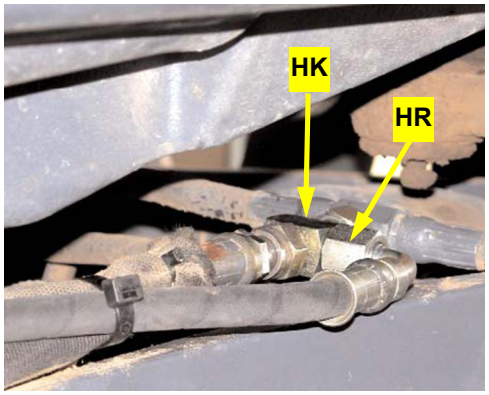


Figure 5a: Installed right steering output hose

b. Route the left steering hose over the top of the front drive-line cover to the right side of the machine (Figure 5b).

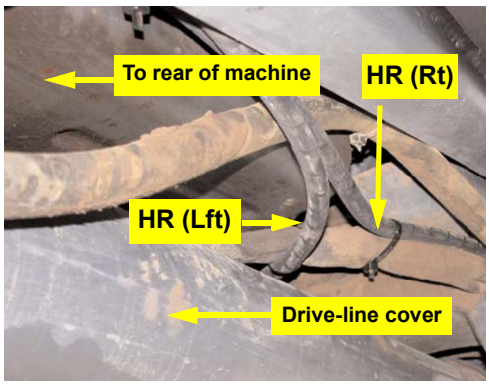


Figure 5b: Steering hoses routed to steering block

**5. Install the steering output hoses *(continued)*.**

c. Route the two hoses toward the hydraulic steering block at the back of the machine. Use tie straps **HW** to secure the hoses against other machine plumbing to prevent entanglement with moving parts and to ensure problem-free operation (Figures 5c-i to 5c-iii).


Figure 5c-i: Steering hoses routed to steering block

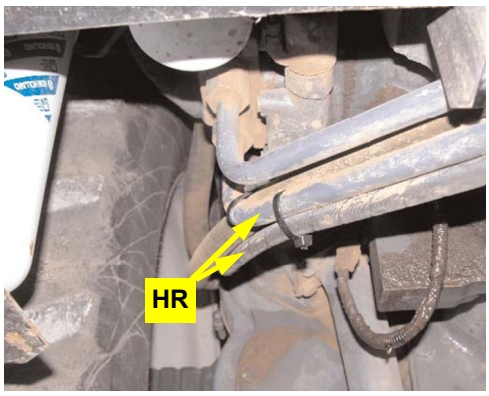



Figure 5c-ii: Steering hoses routed to steering block


Figure 5c-iii: Steering hoses routed to steering block

d. At the back of the machine, connect the steering output hoses to the fittings **HC** in the **A** and **B** ports of the hydraulic steering block (Figure 5d).

e. Tighten the steering output hose fittings at the hydraulic steering block and all the fittings at the front run-tees.

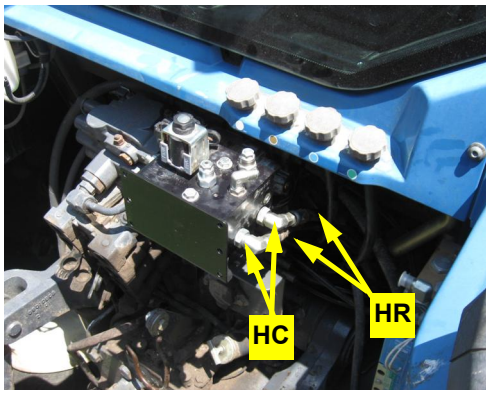



Figure 5d: Steering output hoses connected at steering block

**6. Install the load sense shuttle and fittings.**

a. Prepare the load sense shuttle **HN** with fittings **HO**, **HP** and **HQ** (Figure 6a).

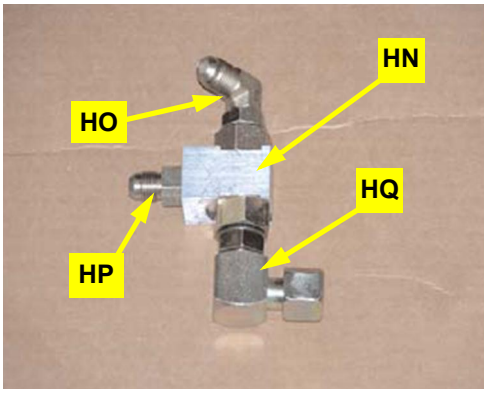


Figure 6a: Prepared load sense shuttle valve

b. Locate the top hydraulic pump under the machine's cab on the right side. Locate the load sense actuator on the top of the pump with a short steel line attached to it. Remove the steel line (Figure 6b).

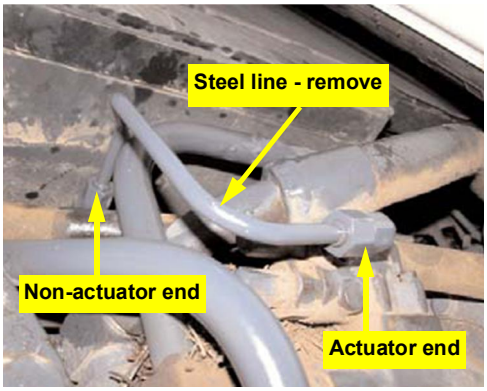


Figure 6b: Steel line and load sense actuator

c. Connect the load sense shuttle's fitting **HQ** to the fitting you disconnected the steel line from (the non-actuator end, Figures 6b and 6c).

d. Install the hydraulic hose **HU** between load sense shuttle's center fitting **HP** and the other fitting you disconnected the steel line from (the actuator end, Figures 6b and 6c).

e. Connect hydraulic hose **HV** to load sense shuttle fitting **HO** (not visible) and route the hose up to the hydraulic steering block (Figure 6c).

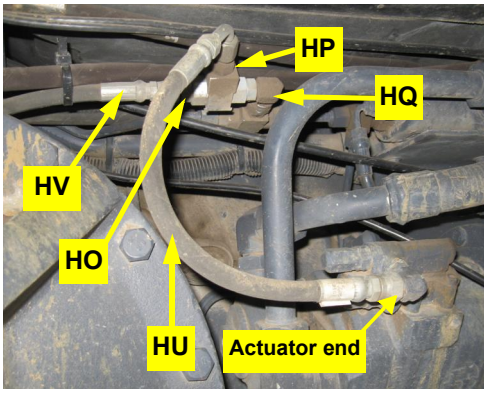


Figure 6c: Installed load sense shuttle valve

**7. Install the pressure and tank fittings.**

a. Pressure for the hydraulic steering block will be supplied from a port on the left side of the machine hydraulic valve stack near the top link of the three-point hitch. Remove the port's #8 ORB hex-plug and install fitting **HL** (Figure 7a).

Figure 7a: Installed pressure fitting

**7. Install the pressure and tank fittings (*continued*).**

b. Tank drain for the hydraulic system will be relieved to the rear casing of the machine to a port just below the hydraulic valve stack. Remove the #12 ORB hex-plug and install the provided JIC fitting **HM** (Figure 7b).

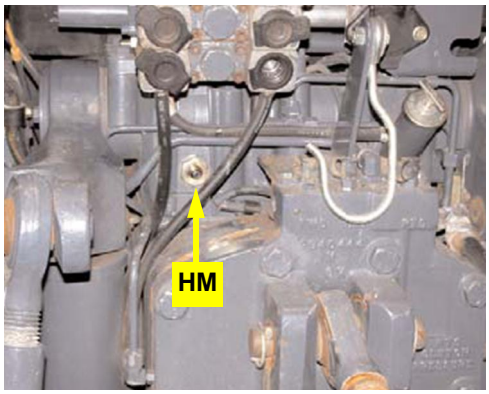



Figure 7b: Installed tank (return) fitting

**8. Install pressure, tank, and load sense hoses.**

a. Install hydraulic hose **HS** between fitting **HL** (not visible) installed in the left side of the machine's hydraulic valve stack at step 7a and fitting **HD** in the hydraulic steering block's **P** port (Figures 8a and 8b).

b. Connect the elbow fitting of hydraulic hose **HT** to fitting **HM** installed in the tank return port in the machine's rear casing at step 7b. Connect the straight fitting of hose **HT** to fitting **HC** in the **T** port of the hydraulic steering block (Figures 8a and 8b).

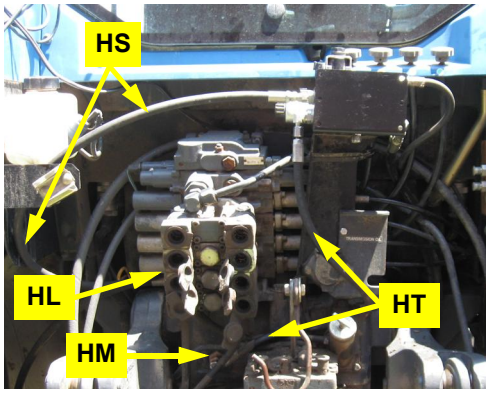



Figure 8a: Pressure and tank hoses connected to steering block

c. Connect the load sense hose **HV,** connected to the load sense shuttle and routed to the steering block at step 6e, to fitting **HB** in the **LS** port of the hydraulic steering block (Figure 8b).

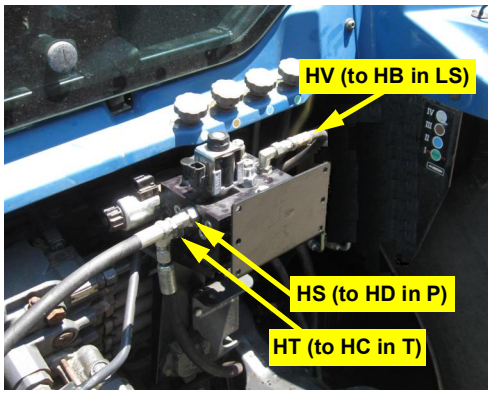



Figure 8b: Pressure, tank and load sense hoses connected to steering block

**9. Verify operation.**

**⚠WARNING:** *During tests of the hydraulic system, the machine may move unexpectedly. Be prepared for machine movement to avoid injury.*

*Keep others away and stay clear of mechanical steering linkages to prevent serious injury or death from pinch point hazards while manually operating the hydraulic steering circuit.*

a. Tighten all connections and clean up the installation area around the machine and make certain that it is safe to operate.

b. Start the machine and check hydraulic connections for any leaks.

c. Rotate the steering wheel from one extreme to the other and back.

# Installation - Wheel Angle Sensor 1 (Standard Axle Models)

**⚠WARNING:**

Switch off the machine's engine while installing or adjusting the WAS. Keep others away and stay clear of mechanical steering linkages to prevent serious injury or death from pinch point hazards while manually operating the hydraulic steering circuit.

**1. Prepare the wheel angle sensor.**

a. Using the provided hardware **WD** and **WE**, attach the WAS wire connector **WB** to the WAS housing **WA**. Install the bolts up through the bottom of the housing. Mount **WB** with its right edge in line with the corner of **WA** (Figure 1a).

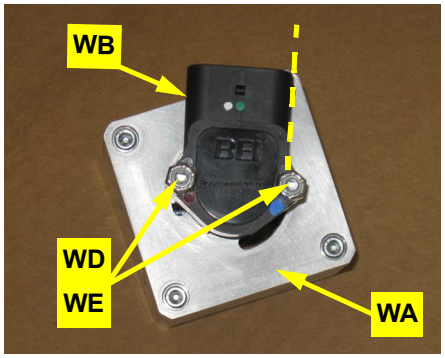


Figure 1a: Mounted WAS wire connector

b. Cut four holes off the WAS arm **WC** at the opposite end from the WAS shaft mounting hole (Figure 1b).

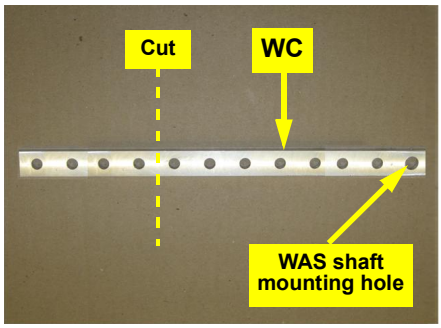


Figure 1b: Attached WAS arm

c. Attach WAS arm **WC** to the WAS assembly using the provided hardware **WE** (nut) and **WF** (screw). Mount **WC** in the opposite direction to **WB**'s wire connector (Figure 1c).

**NOTE:** *Before you cut the rod at step 1d, screw the provided nuts **WH** onto the threaded rod **WG** so that they are inside the cut you will make. After you have cut the rod, the nuts can help clean the threads.*

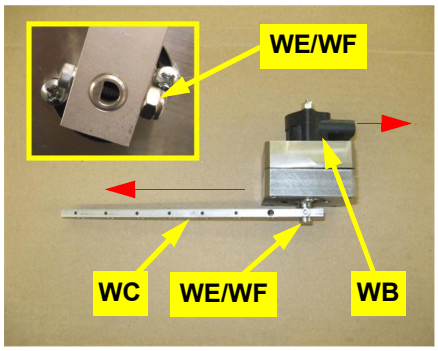


Figure 1c: Attached WAS arm

d. Cut the provided threaded rod **WG** 3¾″ long (Figure 1d-i) then screw the lock nuts **WH** and swivel rod ends **WI** onto the cut threaded rod to achieve a center-to-center stud measurement of 5″ (Figure 1d-ii). Leave **WH** loose until you complete linkage adjustment at step 2f.

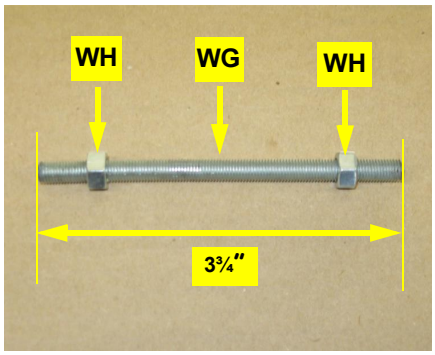


Figure 1d-i: Cut threaded rod

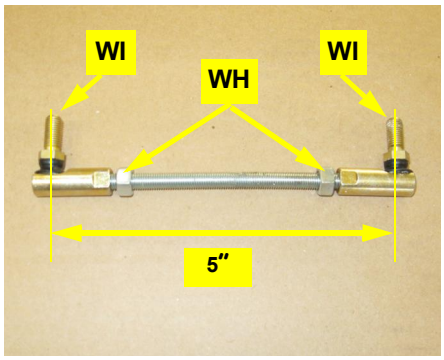


Figure 1d-ii: Assembled threaded rod

**2. Mount the wheel angle sensor.**

a. Identify the WAS bracket mounting location on the front right side of the front axle (Figure 2a).

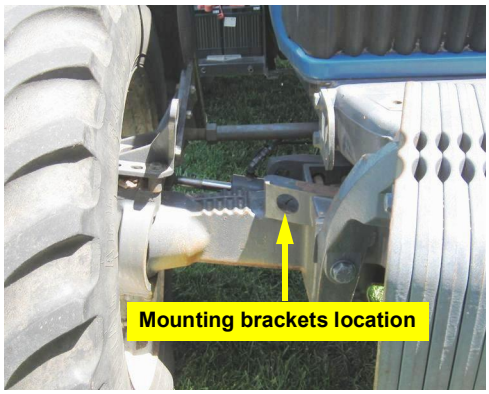


Figure 2a: WAS mounting brackets location

b. Using hardware **WN** install the WAS brackets **WK** and **WL** at the location. **WL** is toward the back of the machine. Set **WK** level with the front axle (Figure 2b).

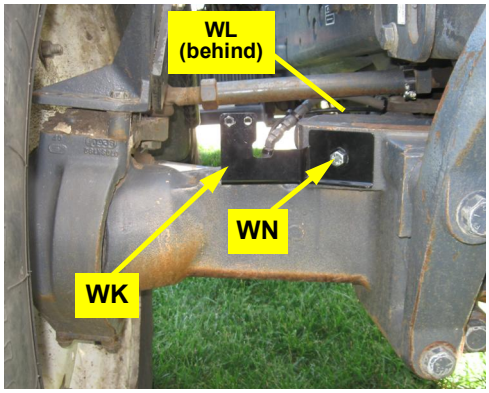


Figure 2b: Installed WAS brackets

c. Using hardware **WJ** attach the WAS assembly to mounting bracket **WK**. Mount the assembly with the connector arm **WC** uppermost and the wire connector **WB** facing the left front of the machine (Figure 2c).

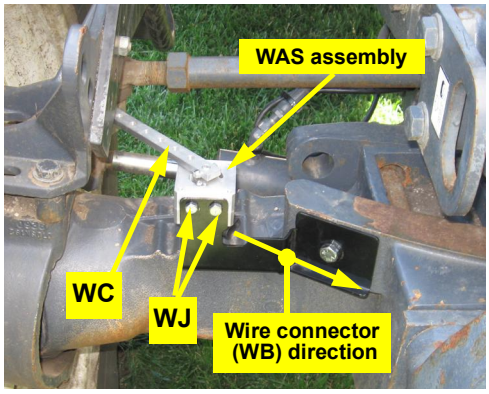


Figure 2c: Installed WAS assembly

d. Install WAS clamp **WS** on the tie rod. Place the clamp next to the tie rod ball joint locking nut, with its tightening nut toward the front of the machine and with its mounting tabs facing up. Tilt the tabs 15° toward the front of the machine (Figure 2d).

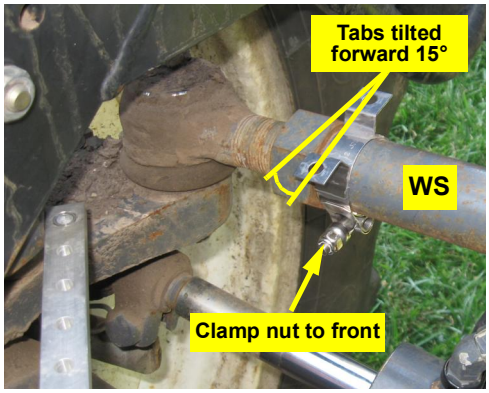


Figure 2d: Installed and tilted WAS clamp

**2. Mount the wheel angle sensor *(continued)*.**

e. Using the remaining two nuts **WH**, connect the assembled WAS linkage from step 1c to the WAS arm **WC** and the front tab of clamp **WS** (Figure 2e).

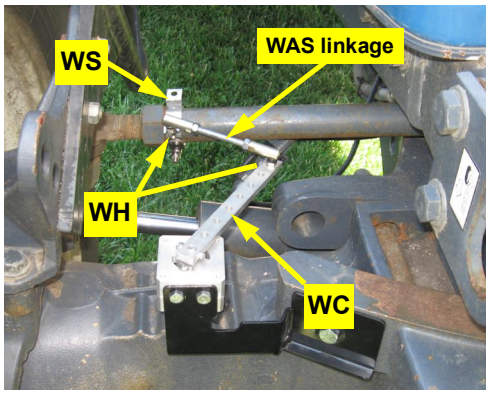


Figure 2e: Installed WAS linkage

f. With all hardware **WH** loose, slowly turn the wheels full left lock then full right lock (Figures 2f-i and 2f-ii). Check that the linkage moves freely without binding and adjust the linkage if necessary.

g. When the linkage moves freely and without binding, tighten hardware **WH** on the rod and the swivels.


Figure 2f-i: Installed WAS - full left lock


Figure 2f-ii: Installed WAS - full right lock

# Installation - Wheel Angle Sensor 2 (Heavy Axle Models)

**⚠WARNING:**

Switch off the machine's engine while installing or adjusting the WAS. Keep others away and stay clear of mechanical steering linkages to prevent serious injury or death from pinch point hazards while manually operating the hydraulic steering circuit.

**1. Prepare the wheel angle sensor.**

a. Using the provided hardware **WD** and **WE**, attach the WAS wire connector **WB** to the WAS housing **WA**. Install the bolts up through the bottom of the housing. Mount **WB** at 90° to any of the WAS housing **WA** sides (Figure 1a).

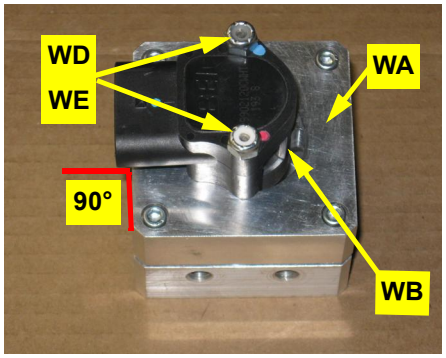


Figure 1a: Mounted WAS wire connector

b. Cut four holes off the WAS arm **WC** at the opposite end from the WAS shaft mounting hole (Figure 1b).

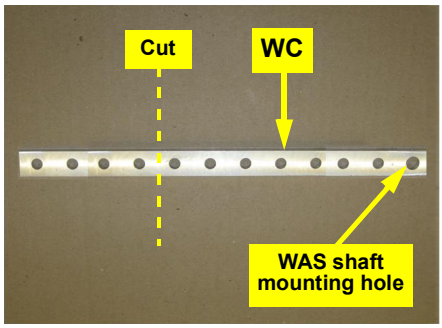


Figure 1b: Attached WAS arm

c. Attach WAS arm **WC** to the WAS assembly using the provided hardware **WE** (nut) and **WF** (screw). Mount **WC** in the same direction as **WB**'s wire connector (Figure 1c).

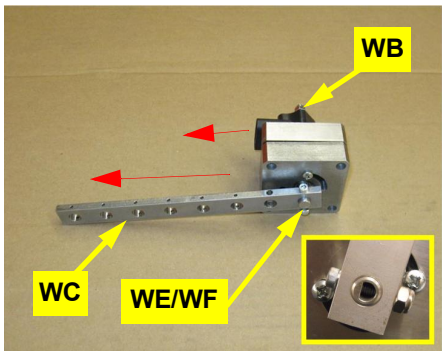


Figure 1c: Attached WAS arm

**NOTE:** *Before you cut the rod at step 1d, screw the provided nuts **WH** onto the threaded rod **WG** so that they are inside the cut you will make. After you have cut the rod, the nuts can help clean the threads.*

d. Cut the provided threaded rod **WG** 4½" long (Figure 1d-i) then screw the lock nuts **WH** and swivel rod ends **WI** onto the cut threaded rod to achieve a center-to-center stud measurement of 5¾" (Figure 1d-ii). Leave **WH** loose until you complete linkage adjustment at step 2f.

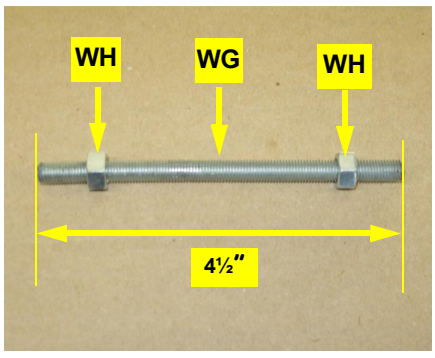


Figure 1d-i: Cut threaded rod

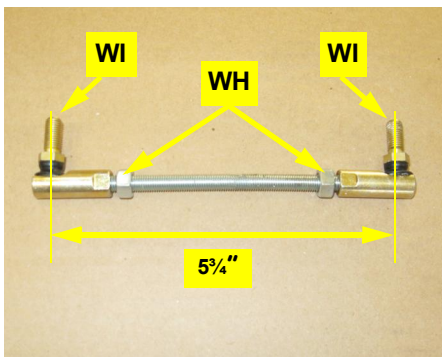


Figure 1d-ii: Assembled threaded rod

**2. Mount the wheel angle sensor.**

**NOTE:** *(i) You will mount the WAS assembly bracket **WM** on the front of the steering axle on the right side. You will use the bolt holes for the front fender bracket (which your machine may or may not have). If your machine has front fenders, use the existing fender bracket bolts; otherwise, use hardware **WQ**.*

*(ii) If your machine has fenders, install the WAS assembly (**WA**, **WB** etc.) on its bracket **WM** (using **WJ** - see step b) before you install **WM** on the steering axle at step a.*

*(iii) The bracket **WM** in these step 2 figures is a prototype. Yours will have different slotted holes.*

a. Using hardware **WQ** (or the two existing bolts), install WAS mounting bracket **WM** between the bolts (or fender bracket) and the axle (Figure 2a and inset). Install the bracket as follows:

- In from the left so that the offset in the bracket is upward and rearward
- Between the fender bracket (if fitted) and the axle
- Hard up against the bolts
- With the WAS assembly already installed if fender bracket fitted

b. Using hardware **WJ** (not visible) install the WAS assembly on its mount **WM** (Figure 2b). Mount the assembly:

- On the back face of the mount **WM**
- With the connector arm **WC** at the top
- With the wire connector (sensor) **WB** facing the machine wheel

c. Using hardware **WP**, install clamp **WO** and link rod bracket **WR** on the tie rod. Set the clamp next to the tie rod ball joint locking nut with bracket **WR** on top and pointing forward (Figure 2c).

d. Using the remaining hardware **WH** (not visible) install the assembled WAS linkage from step 1d between the bracket **WR** and the last hole in connector arm **WC**. Install the linkage with the two swivel studs pointing downward (Figure 2d). Leave the swivel nuts **WH** loose. (You will route WAS cable EE to WB and connect it later).

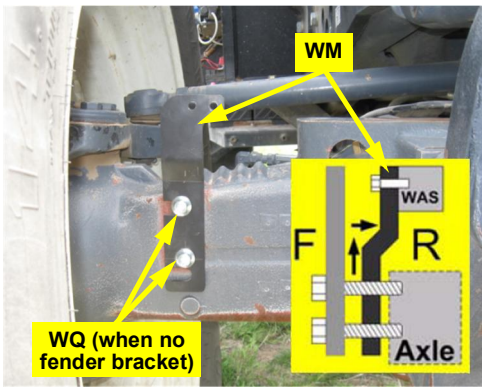



Figure 2a with inset: WAS mounting bracket location. Inset - with fender bracket installed.

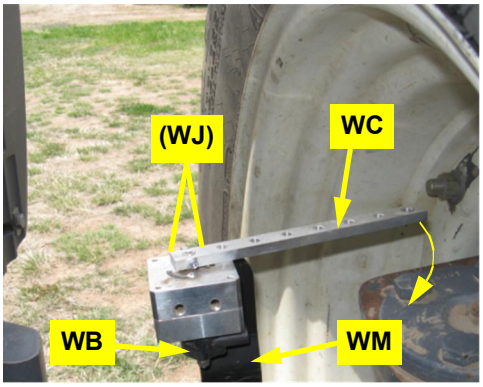



Figure 2b: Installed WAS assembly

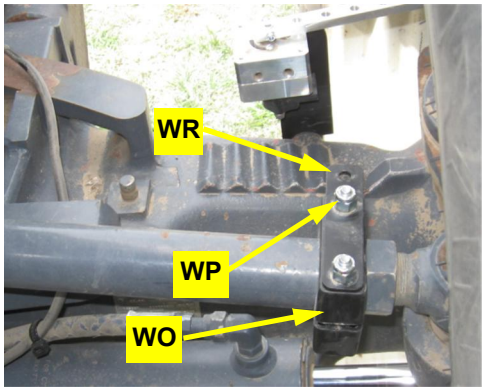



Figure 2c: Installed link rod bracket

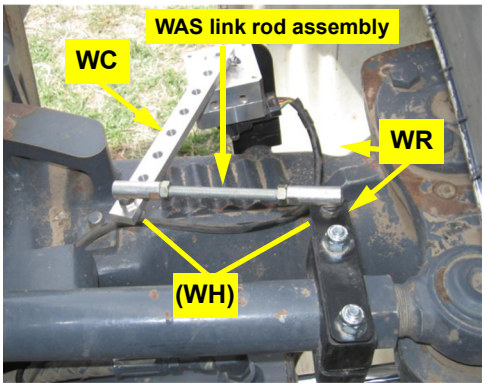



Figure 2d: Installed link rod assembly

**2. Mount the wheel angle sensor *(continued)*.**

e. With all hardware **WH** loose, slowly turn the wheels full left lock then full right lock (not shown). Check that the linkage moves freely without binding and adjust the linkage if necessary.

When the linkage moves freely and without binding, tighten hardware **WH** on the rod and the swivels (Figure 2e).

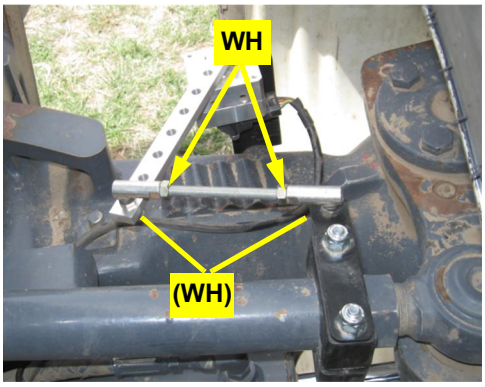



Figure 2e: Tighten link rod nuts

# Installation - Steering Wheel Switch (SWS)

**1. Install the steering wheel switch.**

a. Access the steering shaft by removing the lower right panel of the steering console (Figure 1a).


Figure 1a: Lower right steering console

b. Drill a 3/8″ hole in the switch bracket **SC** at the opposite end from the existing switch hole (the same distance (**x**) from the end of the bracket as the existing hole is from its end - Figure 1b). Install sensor **SD** in the new hole.

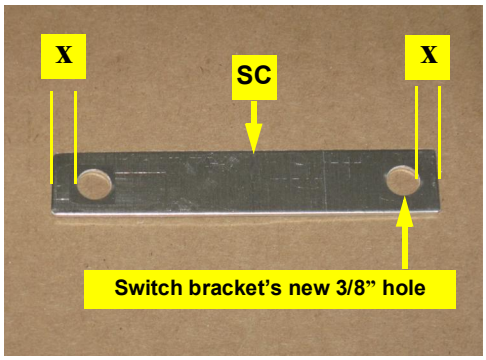



Figure 1b: Newly drilled switch bracket

c. Drill a 3/8″ hole in the steel steering column 2¾″ from the top and 1″ from the edge (Figure 1c with inset).

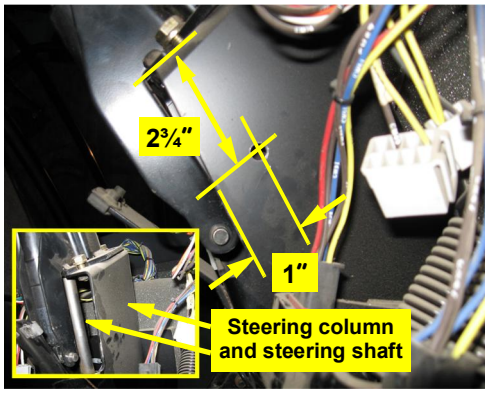



Figure 1c: Location of drilled hole in steering column (see inset for steering shaft location)

d. Using the two-part epoxy **SB**, attach magnets **SA** to the steering shaft at 180° apart. Align the center of each magnet with the center of the drilled hole (Figure 1d).

e. Using hardware **SF,** attach the switch/switch bracket assembly to the steering column. Align the sensor with the magnets and adjust the sensor tip to 1/8″ to 1/4″ from the magnets (Figure 1d).

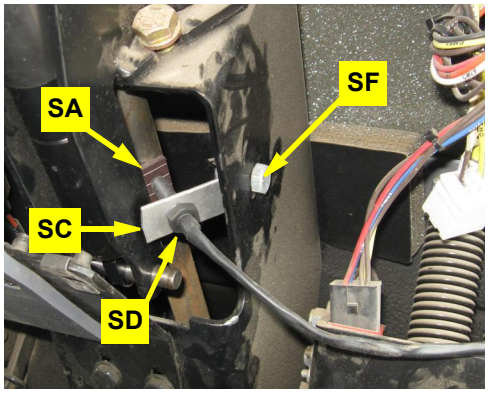



Figure 1d: Installed magnets, switch bracket and sensor