OWNER'S MANUAL

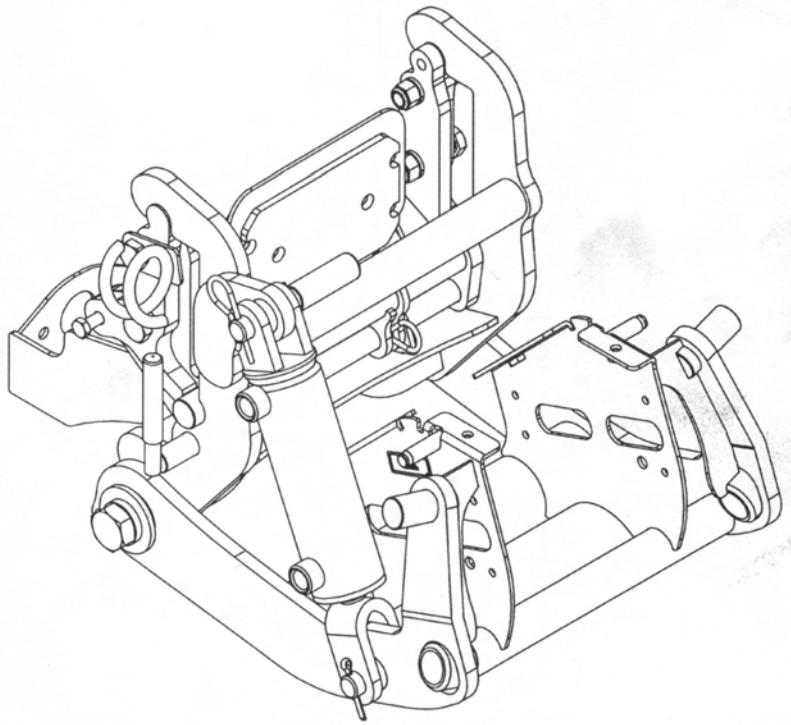
OM0455QH-A / Rev0 11-16

MANUAL PN 77700-07703

Kubota®

BX2810 – 4 point hitch A shape
BX2811 – Drive system "K-Connect"

SERIAL NO. 21700001 AND UP



For BX1880 / BX2380 / BX2680 / BX23S series

PLEASE READ THIS MANUAL CAREFULLY

KEEP READY AT ALL TIMES

INTRODUCTION

TO THE PURCHASER

All products are designed to give safe, dependable service if they are operated and maintained according to instructions. **Read and understand this manual before operation, and keep it in your files for further reference.**

This manual has been prepared to assist the owner and operators in the safe operation and suitable maintenance of the equipment. The information is applicable to products at the time of manufacture and does not include modifications made afterwards.

Read and understand this operator's manual before attempting to put equipment into service. Familiarize yourself with the operating instructions **AND ALL THE SAFETY RECOMMENDATIONS** contained in this manual and those labeled on the equipment and on the machine. Follow the safety recommendations and make sure that those with whom you work follow them.

TO THE DEALER

Give this manual to the owner upon delivery of the equipment.

TO THE PURCHASER AND THE DEALER

Illustrations

The illustrations may not necessarily reproduce the full detail and the exact shape of the parts or depict the actual models, but are for reference only.

Direction Reference

All references to right and left, forward or rearward are from the operator seat.

To assist your dealer in handling your needs, please record hereafter the model number and serial number of your equipment and machine. It is also advisable to supply them to your insurance company. It will be helpful in the event that equipment or machine is lost or stolen

Product Category

MODEL: _____

SERIAL NUMBER: _____

DATE OF PURCHASE: _____

DEALER NAME: _____

DEALER TELEPHONE NUMBER: _____

INTRODUCTION

All products are designed to give safe, dependable service if they are operated and maintained according to instructions. **Read and understand this manual before operation**. It is the owner's responsibility to be certain anyone operating this product reads this manual, and all other applicable manuals, to become familiar with this equipment and all safety precautions. Failure to do so could result in serious personal injury or equipment damage. If you have any questions, consult your dealer.

⚠ SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.

⚠ **DANGER :**	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ **WARNING :**	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ **CAUTION :**	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
IMPORTANT :	Indicates that equipment or property damage could result if instructions are not followed.
NOTE :	Gives helpful information.

Legal Disclaimer

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The Product(s) described in this Publication are designed and manufactured only for the country in which they are initially wholesaled by Kubota. Kubota does not provide parts, warranty or service for any Product which is re-sold or retailed in any country other than the country for which the Product(s) were designed or manufactured.

California Proposition 65

⚠ WARNING ⚠

Engine exhaust, some of its constituents, certain vehicle components and fluids, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

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⚠SAFETY INFORMATION

Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are generally attracted to machines and the work being done. Never assume children will remain where you last saw them

1. Keep children out of the operating area and under the watchful eye of another responsible adult.
2. Be alert and turn machine off if children enter the work area.
3. Before and when backing, look behind for small children.
4. Never carry children while operating the machine. They may fall off and be seriously injured or interfere with the safe operation of the machine.
5. Never allow children to play on the machine or attachment even when the machine is turned off.
6. Never allow children to operate the machine even under adult supervision.
7. Use extra care when approaching blind corners, shrubs, trees, or other obstructions that might hide children from sight.

Before Operation

1. Read and understand both the machine AND implement operator's manual before using the snowblower. Know how to operate all controls and how to stop the unit and disengage the controls quickly. Lack of knowledge can lead to accidents.
2. Park the machine/implement on level ground, set the parking brake, lower the implement to the ground, place all control levers in neutral, shut off the engine and remove the ignition key and allow the rotating parts to stop BEFORE making any implement adjustments, repairs or inspections.
3. Keep clear of all rotating parts. Do not put hands or feet under, or into snowblower and subframe with engine running.
4. For your safety, do not work under any hydraulically supported machine elements, they may creep down, suddenly drop or be accidentally lowered. Do not use loader, quick hitch, or an implement as a jack for servicing.
5. Do not operate the machine/implement that is defective or has missing parts. Make sure that all recommended maintenance procedures are completed before operating the unit.
6. Keep the machine/implement clean. Snow, dirt or ice build-up can lead to malfunction or personal injury from thawing and refreezing in garage. Inspect and clean every rotating parts.
7. Do not modify or alter this implement or any of its components, or any implement function without first consulting your dealer. The manufacturer will not claim responsibility for fitment of unapproved parts and/or accessories and any damages as a result of their use.
8. Verify that all machine/implement safety protective devices are in place. Shields, guards and covers must be correctly installed at all times. When necessary to remove these for servicing, cleaning, or repair work, they must be reinstalled immediately.
9. Always make sure all implement components are properly installed and securely fastened.
10. Check that all machine/implement drivelines are in good working order.
11. Check for moving parts excessive wear regularly. ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED.
12. Prior to operation, clear work area and mark all curbs, pipes, etc. that cannot be moved.
13. Inspect the machine/implement after striking any foreign object to assure that all machine/implement parts are safe and secure and not damaged.
14. Handle fuel with care, as it is highly flammable. Use approved fuel container.
15. Never add fuel to a running engine or a hot engine.
16. Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors. Replace fuel cap securely and wipe up spilled fuel. Always refuel using properly grounded system.

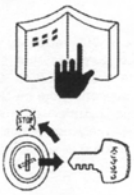
⚠SAFETY INFORMATION

17. Check all machine controls regularly and adjust where necessary. Make sure that the brakes are evenly adjusted. Periodically check all nuts and bolts for tightness, especially wheel hub and rim nuts.
18. Make sure the machine is counterweighted and has tire chains for better traction and stability as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering. Use only those recommended by your dealer.
19. Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable noises.

During Operation

1. Never allow anyone to operate the machine and implement until they have read the manuals completely and are thoroughly familiar with their basic operation. Lack of operating knowledge can lead to accidents.
2. Do not allow anyone to ride on the machine/implement at any time. The only one allowed is the operator that MUST sit in the driver seat.
3. Never allow anyone near the work area. The debris that can be thrown could cause serious personal injuries.
4. Never stand alongside of the implement while the engine is running.
5. Never operate the implement without safety protective devices in place. All machine/implement shields, guards and covers must be correctly installed at all times.
6. Keep clear of all rotating parts. Do not put hands or feet under, or into the implement with engine running.
7. If the implement starts to vibrate abnormally, disengage the PTO, stop the engine immediately and check for cause. Excessive vibration is generally a sign of trouble.
8. Park the machine/implement on level ground, place the transmission in neutral, set the parking brake, disengage the driving system, lower the equipment to the ground, place all levers including auxiliary control levers in neutral, shut off the engine and remove the ignition key BEFORE LEAVING THE MACHINE.
9. Always drive the machine at speeds compatible with safety, especially when operating over rough ground, crossing ditches, slippery surface or when turning.
10. Operate only with good visibility and during daylight hours, or when the area is well lit with bright artificial light.
11. Do not run the engine indoors except when starting engine and transporting attachment in or out of building. Carbon monoxide gas is colorless, odorless and deadly.
12. Exercise extreme caution when operating on or crossing a gravel drive, walks, or roads. Stay alert for hidden hazards or traffic.
13. Use extra caution when backing up.
14. Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.
15. Drive machine backwards up steeper slopes with the implement off. Then operate as you travel down the slope.
16. Never park the machine on a steep slope. Do not attempt to operate on steep slopes. If operating on slopes is necessary, exercise extreme caution when changing direction.
17. Disengage power to implement when transporting or when not in use.

GENERAL SAFETY INFORMATION



BEFORE YOU START SERVICE

- Read all instructions and safety instructions in this manual and on your machine safety decals.
- Clean the work area and machine.
- Park the machine on a stable and level ground, and set the parking brake.
- Lower the implement to the ground.
- Stop the engine, then remove the key.
- Disconnect the battery negative cable.
- Hang a **"DO NOT OPERATE"** tag in the operator station.

No Smoking or Open Flames while Fueling

- Fuel is extremely flammable and dangerous. Never smoke near fuel. If fuel is spilled on the machine, its engine, or electrical parts, it may cause a fire. If fuel is spilled, wipe it all up immediately.
- Never smoke while filling the machine with fuel. And always tighten the fuel cap securely and wipe up any spilled fuel.

- When performing maintenance on the equipment, hang the DO NOT OPERATE sign where it will be obvious from and around the driver's seat.
- When performing maintenance or repairs, always lower attachments to the ground, stop the engine and secure the tracks with blocks.
- When performing maintenance on the equipment, always disconnect the negative battery cable.
- Before using tools, make sure you understand how to use them correctly and use tools in good condition and of the right size for the job.

- Before getting on/off of the machine, clean off around the steps so there is no mud on them. Always give yourself 3-point support when getting on/off the machine.

CAUTION

- **3-point support means using both legs and one hand or both hands and one leg as you climb up/down.**

START SAFELY

- Do not do the procedures below when you start the engine.
  - short across starter terminals
  - bypass the safety start switch
- Do not alter or remove any part of machine safety system.
- Before you start the engine, make sure that all shift levers are in neutral positions or in disengaged positions.
- Do not start the engine when you stay on the ground. Start the engine only from operator's seat.

- Do not remove the radiator cap when the engine operates, or immediately after it stops. If not, hot water can spout out from the radiator. Only remove the radiator cap when it is at a sufficiently low temperature to touch with bare hands. Slowly loosen the cap to release the pressure before you remove it fully.

Starting the Machine Safely

- Before starting the engine, always sit in the driver's seat and make sure the area is safe and clear.
- As it is dangerous, never start the engine from anywhere but the driver's seat.
- Always check and make sure control lever(s) are not engaged before starting the engine.
- Never start the engine by hot-wiring the starter circuit. This is not only dangerous, but may damage the machine.

- The engine, muffler, radiator, hydraulic line, etc., have parts that remain very hot even after the engine has been stopped. Be sure to avoid these parts, as touching them can result in burns. Radiator coolant, hydraulic fluid and oil also remain hot. Therefore, do not attempt to remove caps and plugs, etc., before these fluids have sufficiently cooled.
- Make sure the coolant temperature has dropped sufficiently before opening the radiator cap. Also, since the inside of the radiator is pressurized, when removing the cap, first loosen it to release the pressure before removing the cap completely.

- Wear clothes appropriate for working on equipment. Do not wear loose-fitting clothes as they may catch on the machine controls.
- When working on the equipment, use all safety gear, such as a helmet, safety glasses and shoes, that are required by law or regulation.
- Never perform maintenance while drowsy or under the influence of alcohol or drugs.

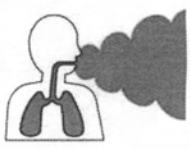
- Grease is under high pressure inside the hydraulic cylinder. It is very dangerous to loosen a grease nipple quickly as it may shoot off. Always loosen grease nipples slowly.
- And never face a grease nipple while loosening it.

Be Ready for an Emergency

- Keep a first-aid kit and fire extinguisher close at hand so you can use it when needed.
- Keep emergency contact information for doctors, hospitals and ERs handy.

PREVENT A FIRE

- Fuel is very flammable and explosive under some conditions. Do not smoke or let flames or sparks in your work area.
- To prevent sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last.
- The battery gas can cause an explosion. Keep the sparks and open flame away from the top of battery, especially when you charge the battery.
- Make sure that you do not spill fuel on the engine.



KEEP A GOOD AIRFLOW IN THE WORK AREA

- If the engine is in operation, make sure that the area has good airflow. Do not operate the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.

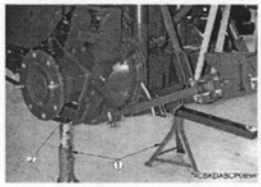
Dispose of Waste Fluids Properly

- Never dispose of waste fluids on the ground, in the gutter, a river, pond or lake. Always dispose of hazardous substances like waste oil, coolant and electrolytic fluid in accordance with the relevant environmental protection regulations.
- Keep the safety plates clean so they can be read. If a safety plate is damaged and comes off or becomes illegible, put a plate with the same warnings back in its place.

GENERAL SAFETY INFORMATION

- The pressure in the hydraulic circuit stays at pressure even after the engine stops. Before removing parts, such as hydraulic devices from the machine, first release the pressure. Please note that when releasing residual pressure, the machine itself and/or implements may move without warning, so be very careful when releasing the pressure.
- Oil gushing out under pressure is extremely dangerous as it may pierce your skin or your eyes. Similarly, oil leaking out of pinholes is not visible. So when checking for oil leaks, always wear safety glasses and gloves and use a piece of cardboard or a wood block to shield yourself from oil.

- Do not open a fuel system under high pressure. The fluid under high pressure that stays in fuel lines can cause serious injury. Do not disconnect or repair the fuel lines, sensors, or any other components between the fuel pump and injectors on engines with a common rail fuel system under high pressure.
- Put on an applicable ear protective device (earmuffs or earplugs) to prevent injury against loud noises.
- Be careful about electric shock. The engine generates a high voltage of more than DC100 V in the ECU and is applied to the injector.



- When you need to access the underside of the machine for maintenance purposes, but sure to support the machine with a safety stand. Getting under the machine while supporting the machine by machine's own hydraulic cylinder or using a hydraulic jack can be extremely dangerous in the event of a hydraulic fluid leakage or similar mishap.

(1) Safety stand
(2) Secure point for safety stand

- Whenever it is necessary to open the engine covers or hood in order to service the machine, always prop them open.
- If it is absolutely necessary to run the engine while working on the machine, make sure you are clear of all rotating or moving parts. Also take care not to leave anything, such as tools or rags, near any moving parts.

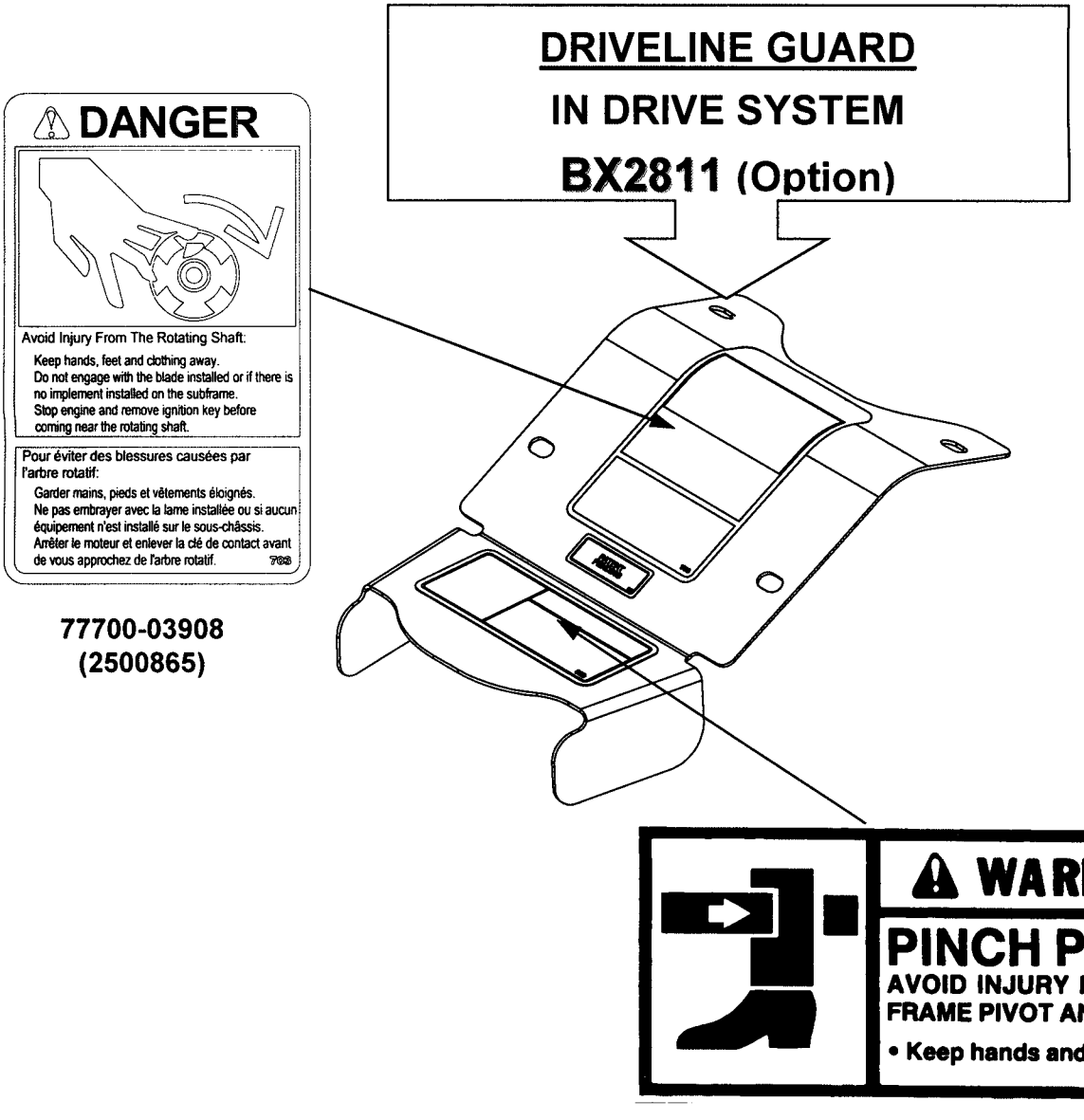
- Engage the loader control valve lock to prevent accidental actuation when the implement is not in use or during transport. Do not utilize the valve lock for machine maintenance or repair.
- Do not perform machine maintenance with loader in the air. If possible, follow loader instructions to remove loader before performing maintenance.
- If the machine has a backhoe, engage swing and boom locks.

SAFETY LABELS

IMPORTANT: Keep all decals clean and legible. Replace all missing, illegible, or damaged decals.

IMPORTANT: Decal placement locations shown are approximate; decals should not be placed in a location where the operator's field of view is impeded, and should not cover any portion of other decals installed in the same vicinity.

INSTALLING OR REPLACING DECALS: Thoroughly clean the area where decal is to be placed using mild soap and water. Allow the surface to fully dry. Remove the backing from the decal, exposing the adhesive surface. Apply the decal to the recommended position shown in the diagram below and smooth out any bubbles..



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ESTIMATED ASSEMBLY TIME

Refer to the following table for the estimated assembly time to open the package and assemble the equipment.

	4 POINT HITCH "A" SHAPE BX2810	DRIVE SYSTEM "K-CONNECT" BX2811
Estimated initial installation time	25-35 min	45-60 min
Reinstallation (on the tractor)	2-3 min	2-3 min

The assembly times of the table are only a reference under normal conditions according to the following assumptions:

1. The assembly is done by a competent person who is familiar with the equipment.

2. The following tools and materials are prepared:

1) Tools:

- Wrench set (flat wrenches)
- Ratchet & socket set
- Allen key set
- Cutting pliers
- Security gloves

2) Material:

- Thread locker (Loctite #243)
- Thread sealant (Teflon tape)

ASSEMBLY

ASSEMBLY OF 4 POINT HITCH & SUBFRAME

Before assembly, separate all hardware according to size. When the assembly is complete, tighten all the bolts by referring to the "Torque Specification Table" located at the end of the manual.

Preparation

Remove the lawnmower and the front loader from the tractor if installed by following the instruction in the tractor's operator's manual.

IMPORTANT: The front loader and subframe should never be installed simultaneously on the tractor.

WARNING: To avoid serious personal injury or death: Read and understand the SAFETY INFORMATION on the previous pages before installation and operation Perform all the assembly with unit properly locked and supported.

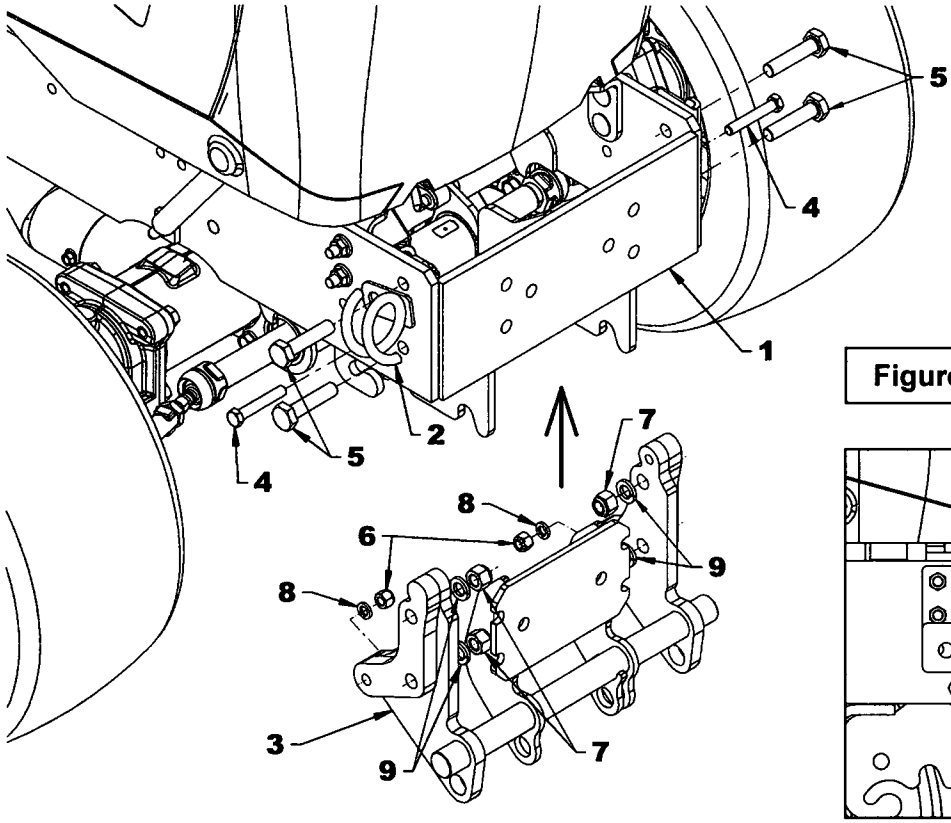
WARNING: To avoid serious personal injury or death: Park the tractor on level ground, place the transmission in neutral, set the parking brake, disengage the drive system, put all levers to neutral, shut off the engine, remove the ignition key and wait for all movement to stop BEFORE starting installation.

ASSEMBLY

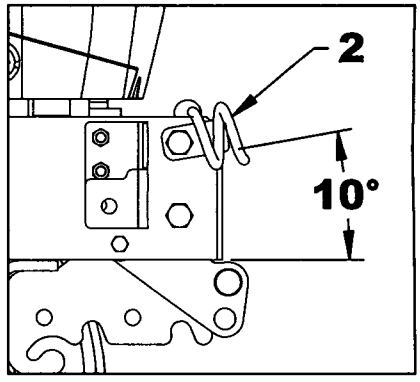
Installation of the Front Adaptor

NOTE: The front adaptor (item 3) is compatible with the front loader and lawnmower so can remain permanently installed on the tractor.

1. **Figures 1:** Gather all the items listed in the table of figures 1.
2. **Figures 1:** Insert the front adaptor (item 3) inside the tractor frame (item 1) from underneath and place the hose support (item 2) in the location and angle indicated.
3. **Figures 1:** Attach everything without tightening with four 1/2"NC x 2 1/2" lg. bolts 3/8" lockwashers and1/2"NC nylon insert nuts (items 5-9-7) as well as two 3/8"NC x 2 1/4" lg. bolts, 3/8" lockwashers and 3/8"NC nylon insert nuts (items 4-8-6).



Figures 1

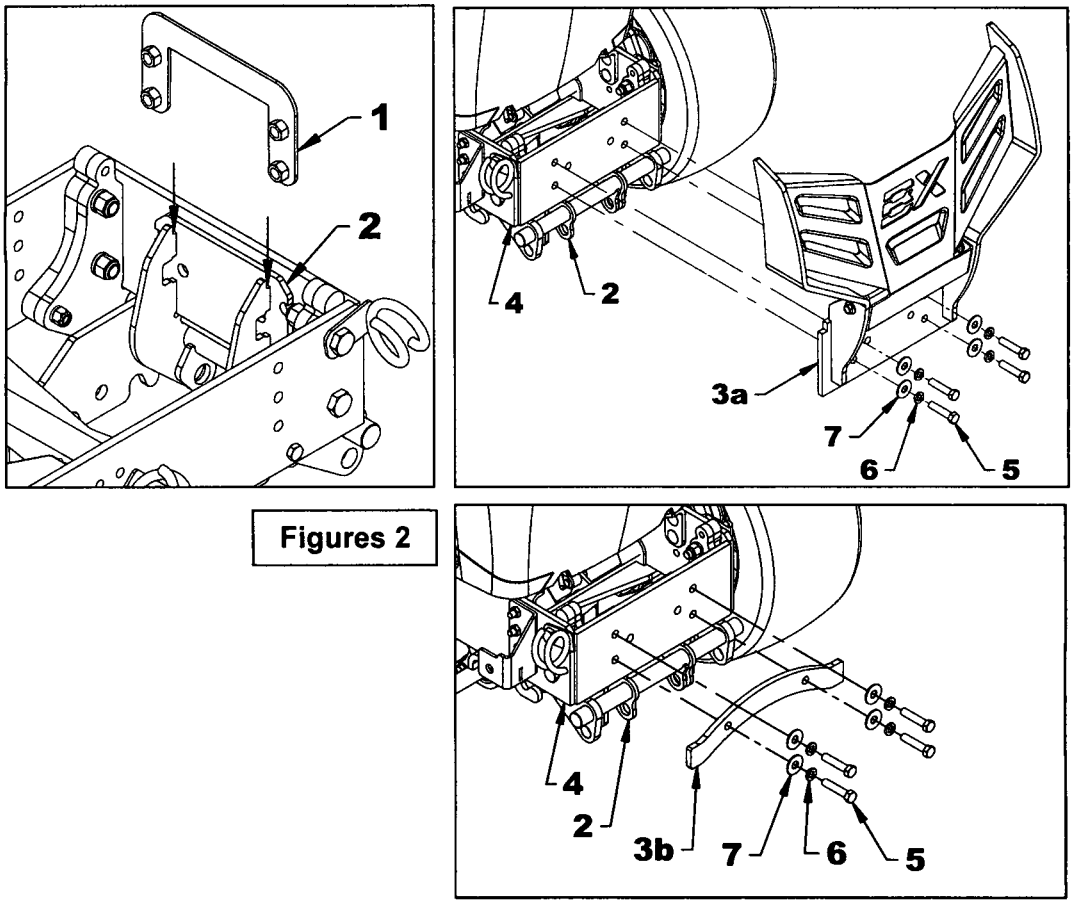


N°	PARTS FIGURES 1	QTY
1	Tractor	1
2	Hose Support	1
3	Front adaptor	1
4	Hex. bolt 3/8"NC x 2 1/2" lg. gr.5, PTD	2
5	Hex. bolt 1/2"NC x 2 1/4" lg. gr.5, PTD	4
6	Nylon insert nut 3/8"NC, PTD	2
7	Nylon insert nut 1/2"NC, PTD	4
8	Lockwasher 3/8", PTD	2
9	Lockwasher 1/2", PTD	4

ASSEMBLY

4. **Figures 2:** Gather all the items listed in the table of figures 2.
5. **Figures 2:** Place the retaining plate for bolts (item 1) in the front adaptor notches (item 2).
6. **Figures 2:** Attach the front adaptor (item 2) and the front guard (item 3a-Option), OR the 3/8" thick spacer (item 3b), to the tractor frame (item 4) with four 7/16"NC x 2" lg. bolts, 7/16" lockwashers 7/16" (items 5-6-7)flat washers.

   NOTE: The front guard (item 3a) is an option and the subframe is functional with or without this guard.
7. **Figures 2:** Tighten the four 7/16"NC x 2" lg. bolts (item 5) firmly according to the torque specification table at the end of the manual.
8. **Figures 1:** Tighten the two 3/8"NC x 2 1/4" lg. bolts and four 1/2"NC x 2 1/2" lg. bolts (items 4-5) firmly according to the torque specification table at the end of the manual.



Figures 2

N°	PARTS FIGURES 2	QTY
1	Retaining plate for bolts	1
2	Front adaptor	1
3a	Front guard (option)	1
3b	Spacer 3/8" thick	1
4	BX tractor	1
5	Hex. bolt 7/16"NC x 2" lg. gr.5, PTD	4
6	Lockwasher 7/16", PTD	4
7	Flat washer 7/16", PTD	4

ASSEMBLY

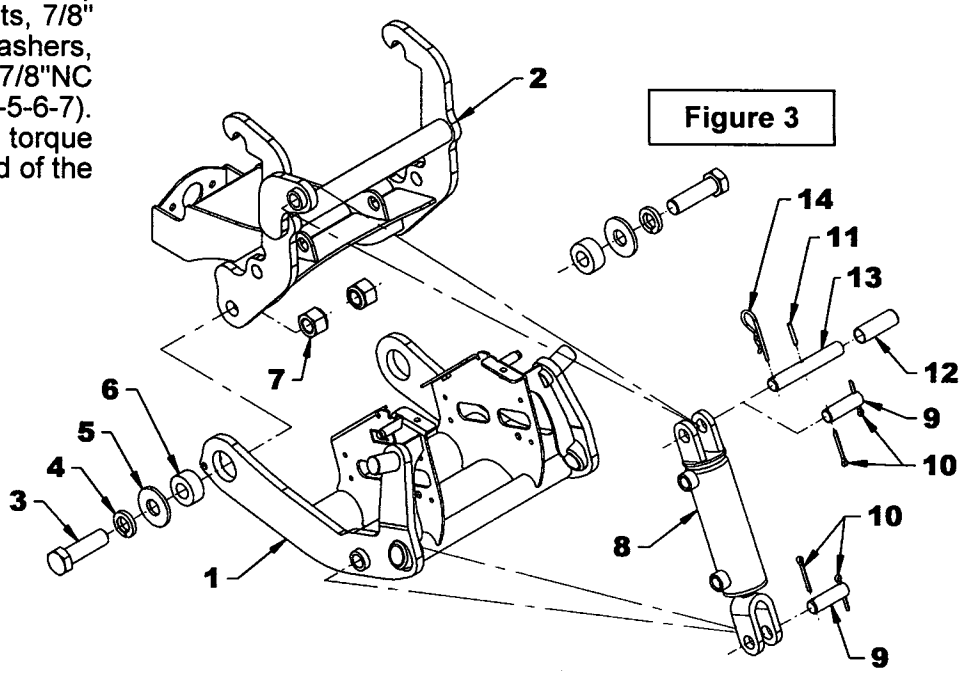
Subframe Assembly

NOTE: If you have the BX2811 drive system follow STEPS 1 to 5 of the section "Installation of the Drive System" (pages 21 to 24) before assembling the subframe.

1. **Figure 3:** Gather all the items listed in the table of figure 3.
2. **Figure 3:** Apply grease inside the Ø 1 3/4" holes of the 4 point male hitch arms (item 1). The recommended grease for this application is preferable high quality "extreme pressure" molybdenum disulphite grease identified "Moly EP" on the label.
3. **Figure 3:** Attach the male hitch (item 1) to the subframe (item 2) with two 7/8"NC x 3" lg. bolts, 7/8" lockwashers, 7/8" flat washers, Ø 1 3/4"pivot bushings and 7/8"NC nylon insert nuts (items 3-4-5-6-7). Tighten according to the torque specification table at the end of the manual.
4. **Figure 3:** Attach the rod end of the cylinder (item 8) to the bushing on the bottom of the hitch (item 1) with the Ø3/4" x 2 1/2" lg. pin and the two 3/16" x 1 1/2" lg. cotter pins (items 9-10) supplied with the cylinder.

   IMPORTANT: The cylinder ports must be directed as shown on figure.
5. **Figure 3:** Insert the 3/16" x 1 1/4" lg. spring pin and the plastic handle 3/4" x 2 1/2" lg. (items 11-12) on the 3/4" x 5" lg. pin (item 13).
6. **Figure 3:** Remove and discard the 3/4" x 2 1/2" lg. pin and the two 3/16" x 1 1/2" lg. cotter pins (items 9-10) from the other end of the cylinder (item 8) and attach the cylinder to to the upper bushing of the subframe (item 2) with the 3/4" x 5" lg. pin and the 4mm x 80mm hairpin (items 13-14).

Figure 3



N°	PARTS FIGURE 3	QTY
1	4 point male hitch	1
2	Subframe	1
3	Hex bolt 7/8"NC x 3" lg. gr. 5 PTD	2
4	Lockwasher 7/8"	2
5	Flat washer 7/8"	2
6	Pivot bushing Ø 1 3/4"	2
7	Nylon insert nut 7/8"NC	2
8	Cylinder 2" x 5"	1
9	Pin Ø3/4" x 2 1/2" lg. (included with cylinder)	N/A
10	Cotter pin 3/16" x 1 1/2" lg. (included with cylinder)	N/A
11	Spring pin 3/16" x 1 1/4" lg.	1
12	Plastic handle 3/4" x 2 1/2" lg.	1
13	Pin 3/4" x 5" lg.	1
14	Hairpin 4MM x 80MM	1

ASSEMBLY

Installation of the Hydraulic Components

NOTE: If you have the drive system BX2811, follow STEPS 6 and 7 of the section "Installation of the Drive System" (pages 25-26) before proceeding to the next steps of this section.

1. **Figure 4:** Gather all the items listed in the table of figure 4.

IMPORTANT: For detailed instructions to assemble the hydraulic components refer to the section "Adapter Installation Process" at the end of the manual

2. **Figure 4:** Apply thread sealant (Teflon tape) to the male section of the two 90° 3/8"NPT male x 3/8"NPT female elbows (item 1) and screw in the cylinder ports (item 2) positioning the elbows as shown on figure.
3. **Figure 4:** Apply thread sealant (teflon tape) to the male end of the 37" lg. hose (item 3) and the 45" lg. hose (item 4) and attach the hoses to the 90° elbows (item 1).
4. **Figure 4:** Attach the two 90° 1/4"NPT male/pivoting female elbows (items 5) on the other end of the hoses (items 3-4).
5. **Figure 4:** Apply thread sealant (teflon tape) to the male end of the two 90° 1/4"NPT male/pivoting female elbows (items 5) and attach the two 1/4"NPT female quick couplers (items 6).

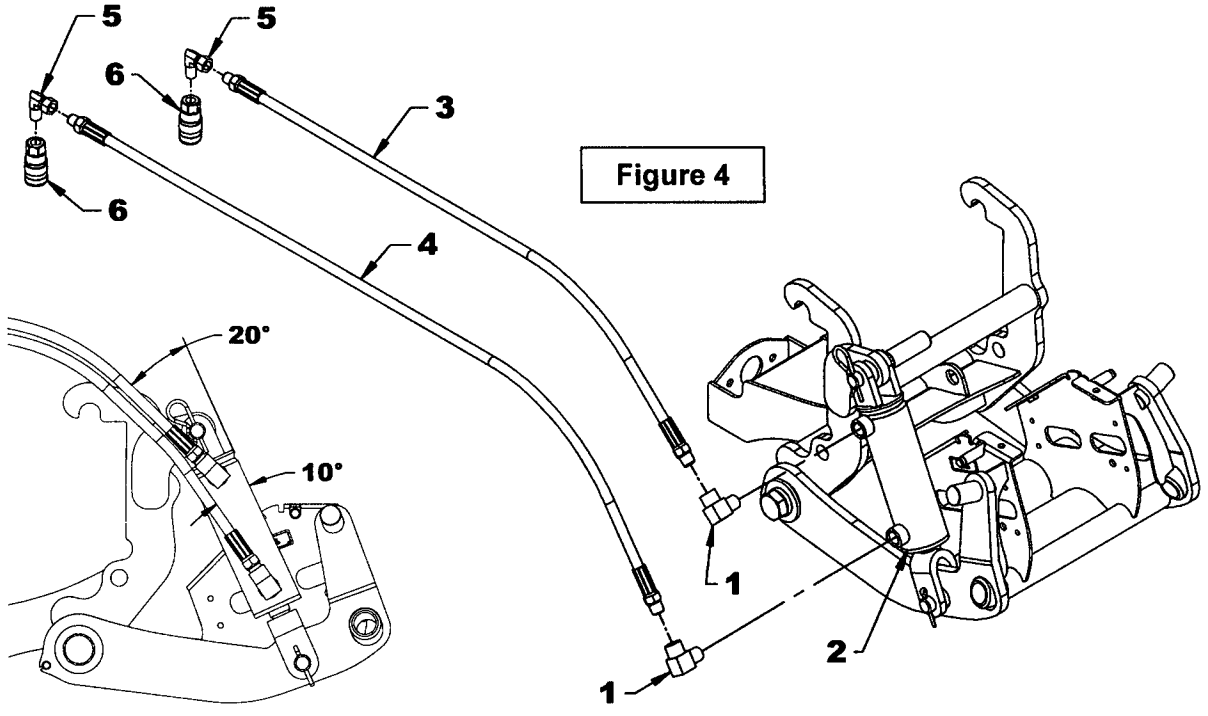


Figure 4

N°	PARTS FIGURE 4	QTY
1	Elbow 90°, 3/8" NPT R.M. x 3/8" NPT R.F.	2
2	Cylinder 2" x 5"	1
3	Hose 1/4" x 37" LG.	1
4	Hose 1/4" x 45" LG.	1
5	Elbow 90°, 1/4"NPT R.M./PVF.	2
6	Female quick coupler 1/4" NPT	2
n/a	Thread sealant, Teflon tape (not included)	---

ASSEMBLY

Installation of the Subframe on the Tractor

1. **Figures 5:** Gather all the items listed in the table of figures 5.
2. **Figure 5:** Insert the 1/2" x 3" handle (item 1) on the 3/4" X 14 3/4" lg "L" pin (item 2).
3. **Figure 5:** Place the assembled male hitch and subframe (items 6, 8) in front of the tractor so the subframe hooks (item 6) are approximately 6" from the tractor.
4. **Figure 5:** Remove the 4mm x 80mm hairpin (item 3) from the 3/4" x 5" lg. pin (item 4) and remove the cylinder (item 5).

IMPORTANT: BEFORE proceeding to the next step, carefully read the safety instruction of figure 5a on the next page.

5. **Figure 5:** Stand facing the subframe (item 6) and place your hands (R-H & L-H) where shown on figure 5a. Lift and place the hooks (item 6) inside the front adaptor (item 7) as shown.
6. **Figure 5b:** With your right hand insert the 3/4" x 5" lg. pin (item 4) in the first hole only of the cylinder (item 5) making sure it doesn't exceed that first hole as shown on figure 5b.
7. **Figure 5b:** Keep your right hand on the 3/4" x 5" lg. pin (item 4) and with your left hand on the male hitch tube (item 8) lift the hitch and secure the cylinder (item 5) to the subframe (item 6) with the 3/4" x 5" lg. pin(item 4) and the 4mm x 80mm hairpin (item 3).
8. **Figure 5c-5d:** Secure the subframe (item 6) to the front adaptor (item 7) with the 3/4" x 14 3/4" lg. L pin (item 2) and the 4mm x 80mm hairpin (item 9).

   IMPORTANT: The L pin handle (item 2) must point up and the hairpin must be inserted between the two small plates of the front adaptor (item 7) as shown on figure 5d.

N°	PIÈCES FIGURES 5	QTÉ
1	Plastic handle 1/2" x 3" lg.	1
2	"L" pin 3/4" x 14 3/4" lg.	1
3, 9	Hairpin 4mm x 80mm	2
4	Pin 3/4" x 5" lg	1
5	Cylinder 2" x 5"	1
6	Subframe	1
7	Front adaptor	1
8	4 point male hitch	1

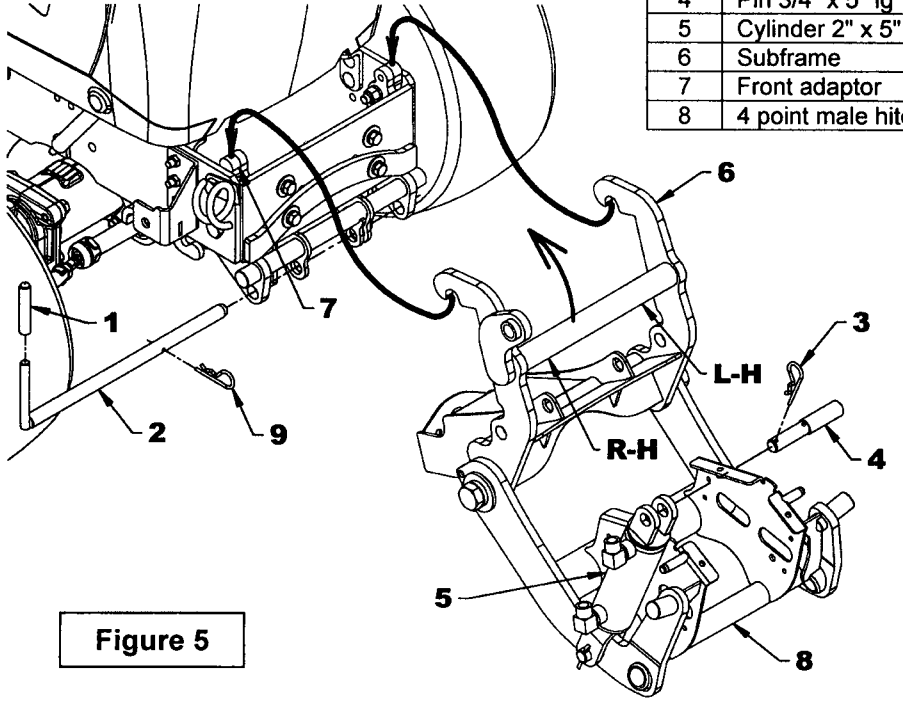


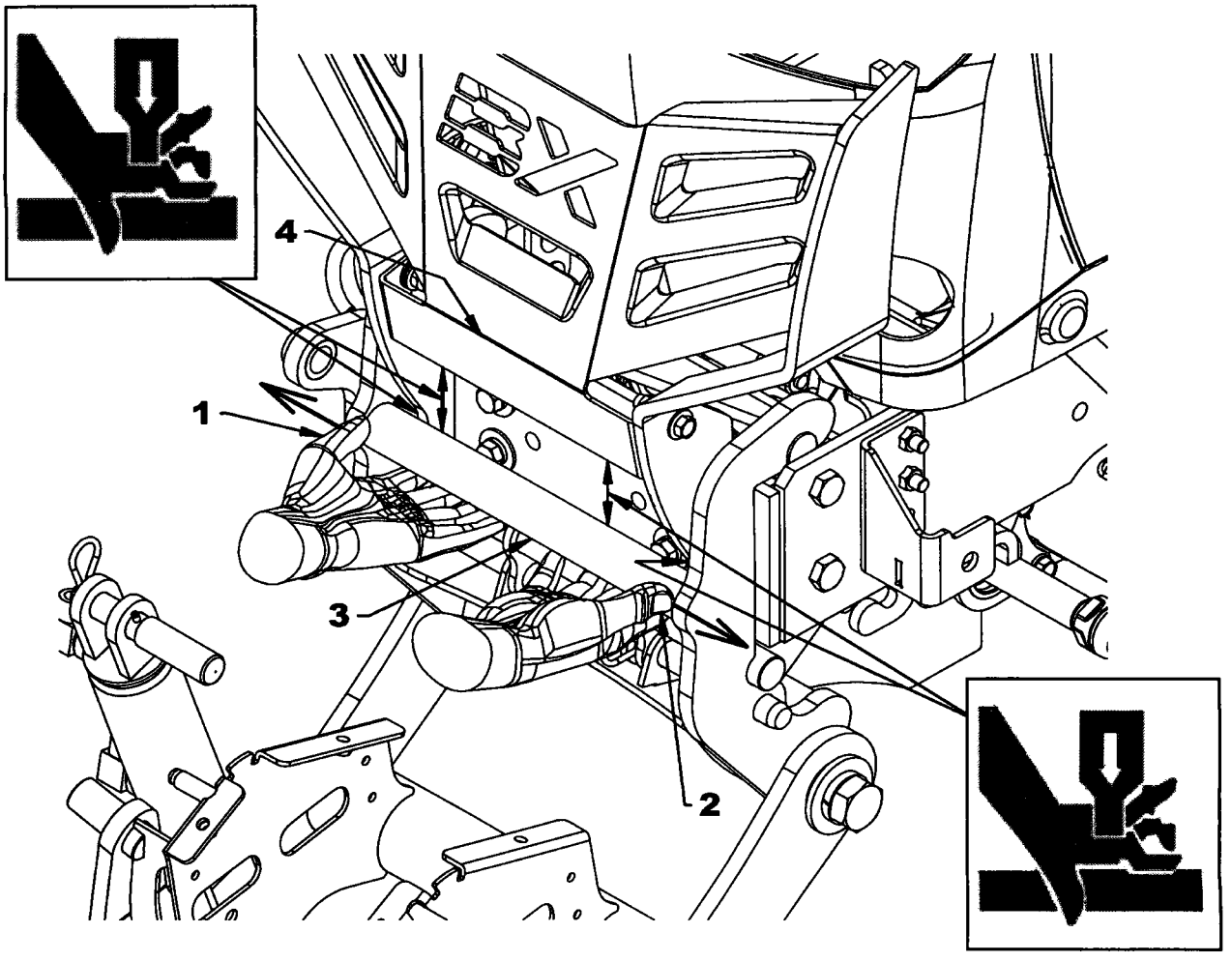
Figure 5

ASSEMBLY

⚠ **WARNING: To avoid pinching your fingers between the subframe tube (item 3) and the tractor front guard (item 4), place your fingers under and in the middle of the subframe tube (item 3) and point your thumbs (items 1-2) towards the outside as shown on figure 5a.**

IMPORTANT: To install the subframe on the tractor we recomment using safety gloves if there's a front guard installed (item 4).

Figure 5a



ASSEMBLY

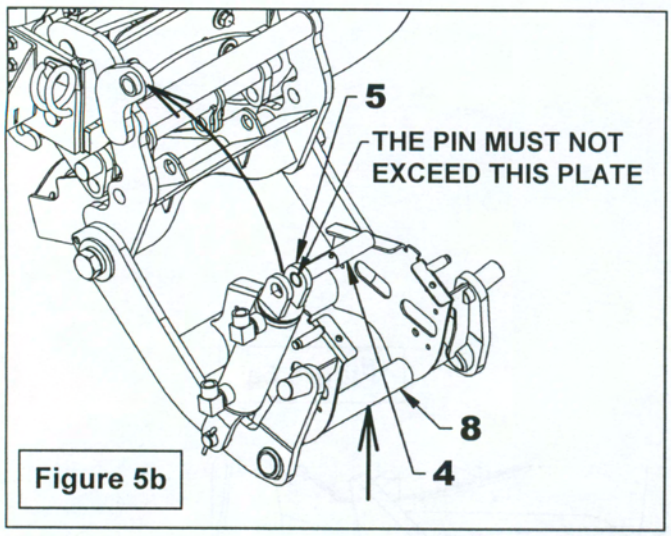


Figure 5b

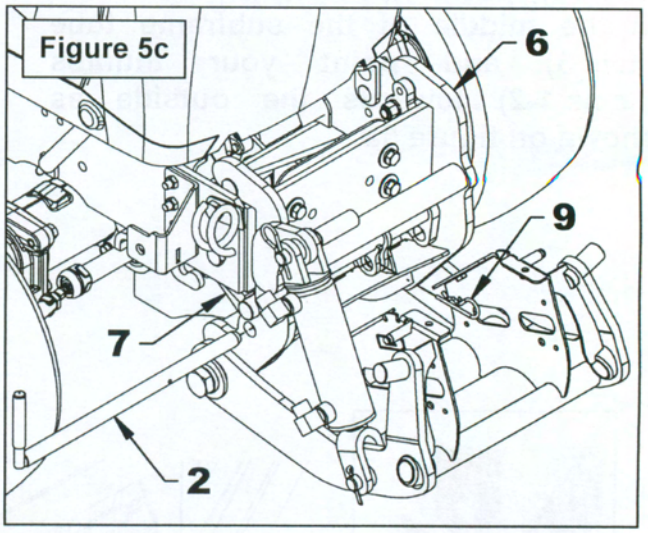


Figure 5c

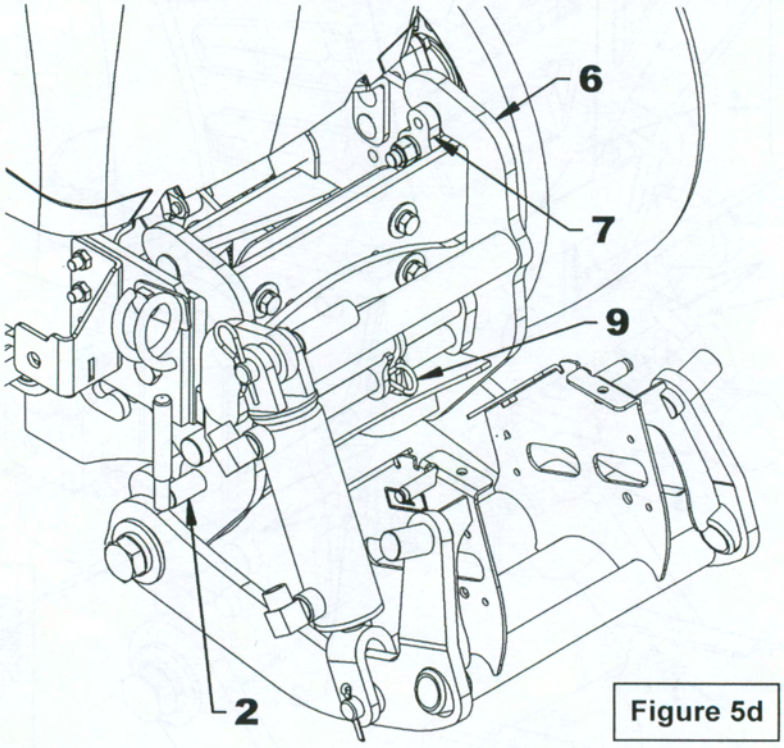
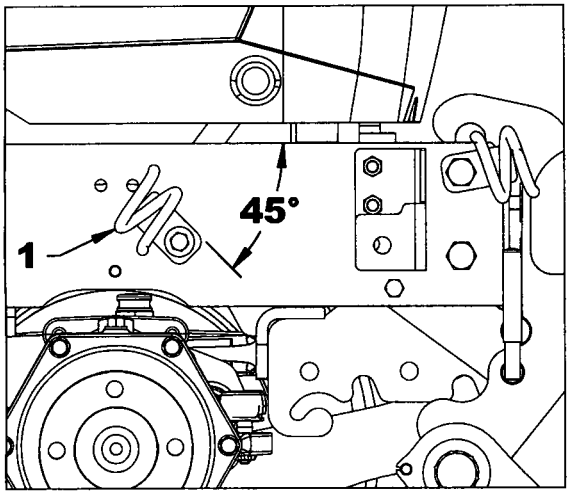


Figure 5d

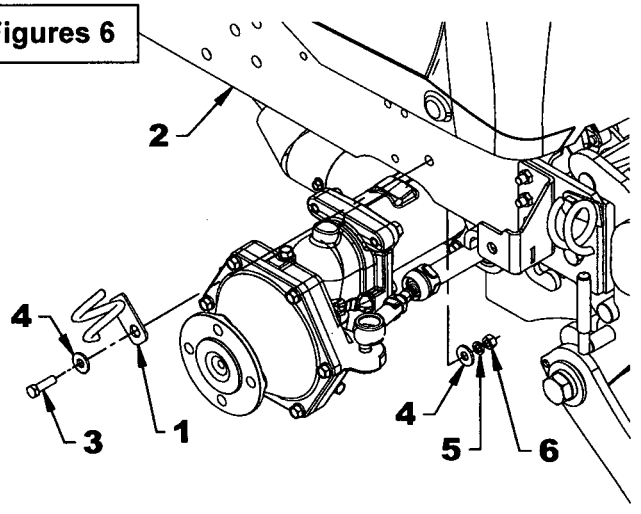
ASSEMBLY

Installation of the Hose Support

1. **Figures 6:** Gather all the items listed in the table of figures 6.
2. **Figures 6:** Place the hose support (item 1) on the tractor frame (item 2) at a45° angle as shown on figure.
3. **Figures 6:** Secure with a 3/8"NC x 1 1/4" lg. bolt (item 3), two 3/8" flat washers (item 4), a 3/8" lockwasher (item 5) and a 3/8"NC nut (item 6).



Figures 6



N°	PARTS FIGURES 6	QTY
1	Hose support	1
2	Tractor frame	1
3	Hex. bolt 3/8"NC x 1 1/4" lg	1
4	Flat washer 3/8"	2
5	Lockwasher 3/8"	1
6	Hex. nut. 3/8"NC	1

ASSEMBLY

Connecting the Hydraulic Hoses to the Tractor

1. **Figures 7:** Gather all the items listed in the table of figures 7.
2. **Figure 7:** Insert the hoses (items 1-2) in the rear hose support only (item 3a). Connect the hose from the upper cylinder port to the front tractor valve coupler and the other hose to the other tractor valve coupler as shown on figure 7.

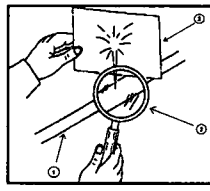
   IMPORTANT: Do not insert the hoses (items 1-2) in the front hose support (item 3b). The front support will be used to hold the equipment hoses.

   IMPORTANT: Make sure the couplers are clean before connecting them.
3. **Figure 7a:** Install the white identification rings (item 4) and the yellow ones (item 5) on the hoses as shown on figure 7a.
4. **Figure 7:** Attach the two hoses with two 8" lg. tie wraps (item 6) where shown on figure 7 and cut off the excess.

NOTE: If you have the drive system BX2811, complete the assembly by performing STEP 8 of the section "Installation of the Drive System" (page 27).

WARNING: To avoid serious personal injury. Escaping hydraulic/ diesel fluid under pressure can penetrate the skin causing serious injury.

- **Do not use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.**



1. Hydraulic hose
2. Cardboard
3. Magnifying glass

- **Stop engine and relieve pressure before connecting or disconnecting lines.**
- **Tighten all connections before starting engine or pressurizing lines.**

If any fluid is injected into the skin, obtain medical attention immediately or gangrene may result..

Figure 7a

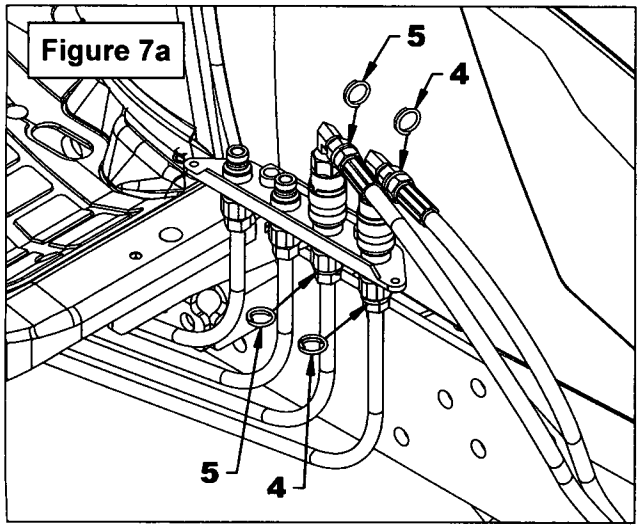
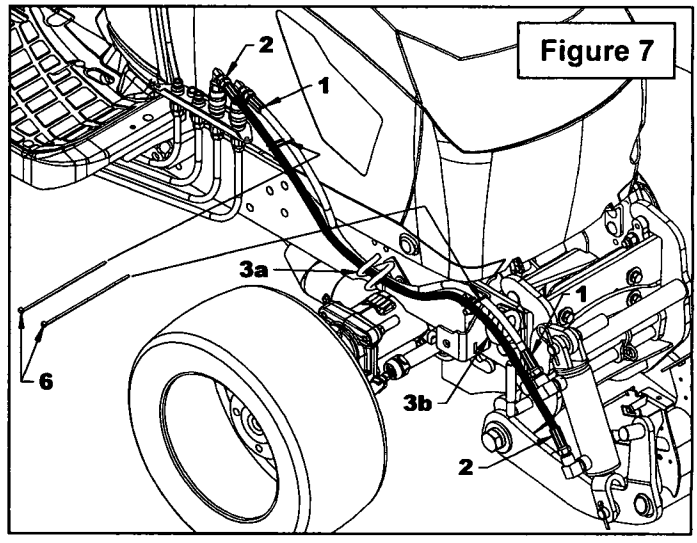


Figure 7



N°	PARTS FIGURE 7	QTY
1-2	Hose	2
3	Hose support	2
4	Identification ring - white	2
5	Identification ring - yellow	2
6	Tie wrap 8" lg. X 4.8MM	2

ASSEMBLY

Installation of the BX2811 Drive Kit (option)

STEP 1: INSTALLATION OF THE ANTI-FRICTION GUIDES

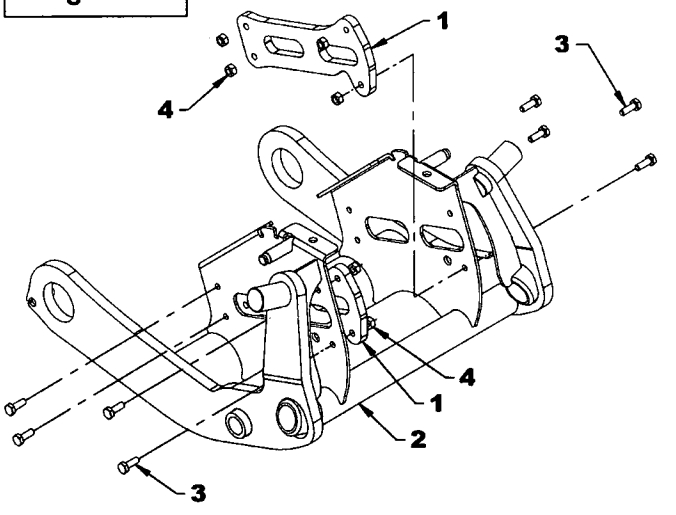
1. **Figure 8:** Gather all the items listed in the table of figure 8.
2. **Figure 8:** Secure the two anti-friction guides" (item 1 to the male hitch (item 2) with eight 1/4"NC x 3/4" lg. bolts (item 3) and eight 1/4"NC stover nuts (item 4).

STEP 2: INSTALLATION OF THE ENGAGEMENT LEVER

1. **Figure 9:** Gather all the items listed in the table of figure 9.
2. **Figure 9:** Insert the 5/8" lg. X 1/2" ID X 5/8" OD plastic shoulder bushings (item 1) in the engagement lever bushings (item 2).
3. **Figure 9:** Attach the engagement lever (item 2) to the male hitch (item 3) with two 3/8"NC X 1 1/4" lg. allen socket head capscrew (item 4), two Ø1/2" x 11/16" lg. pivot bushings (item 5), two 10mm flat washers (item 6) and two 3/8"NC stover nuts (item 7).

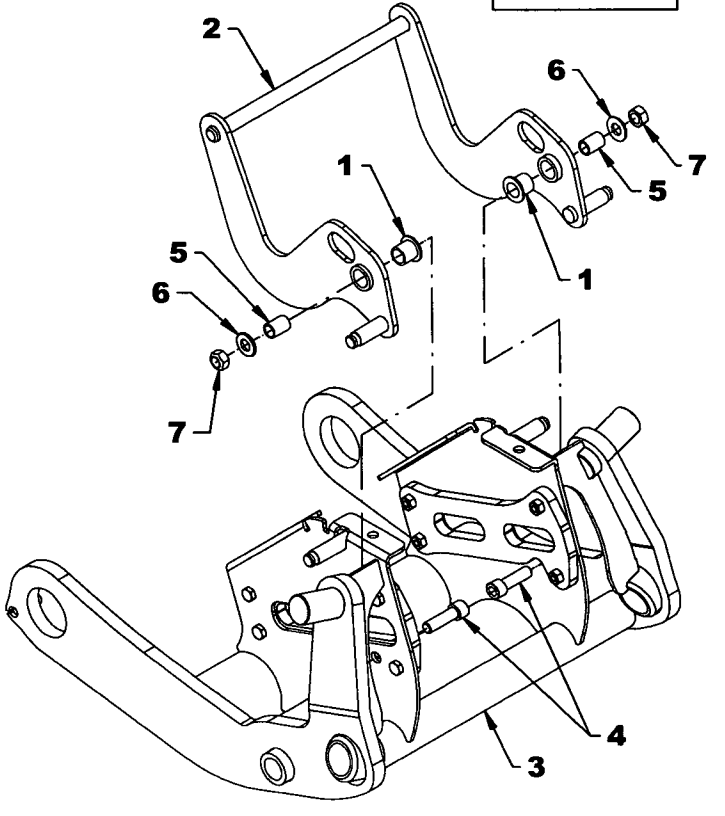
N°	PARTS FIGURE 9	QTY
1	Plastic shoulder bushing 5/8" lg. x 1/2" Ø int. x 5/8" Ø ext.	2
2	Engagement lever	1
3	4 point male hitch	1
4	Allen socket head capscrew 3/8"NC x 1 1/4" lg.	2
5	Pivot bushing Ø1/2" X 11/16" lg.	2
6	Flat washer 10MM (10.5MM Ø INT.)	2
7	Stover nut 3/8"NC	2

Figure 8



N°	PARTS FIGURE 8	QTY
1	Anti-friction guide 3/8"	2
2	4 point male hitch	1
3	Hex. bolt 1/4"NC x 3/4" lg.	8
4	Stover nut 1/4"NC	8

Figure 9

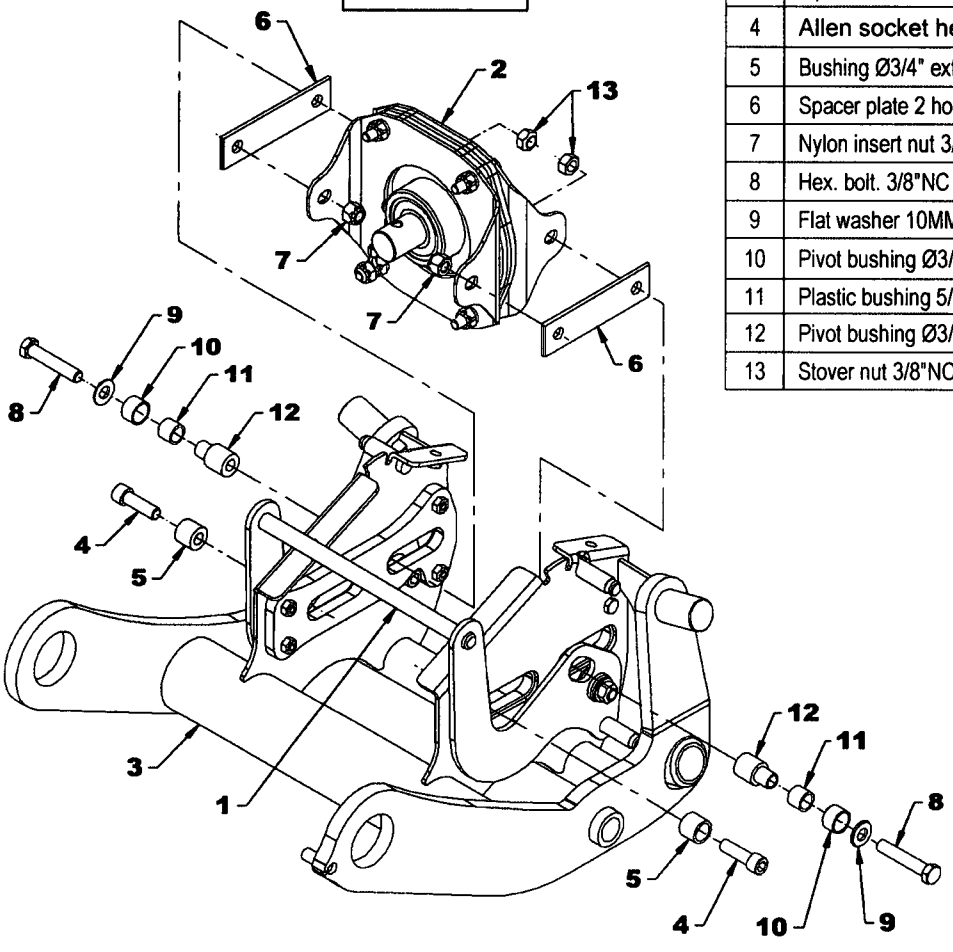


ASSEMBLY

STEP 3: INSTALLATION OF THE CONNECTION SUPPORT

1. **Figure 10:** Gather all the items listed in the table of figure 10.
2. **Figure 10:** Push the engagement lever (item 1) towards the rear as shown on figure.
3. **Figure 10:** Insert the two 3/8"NC x 1 1/4" lg. allen socket head capscrews (item 4) in the ø3/4" ext. x 5/8" lg. bushings (item 5). **IMPORTANT:** The capscrew head must be inserted completely inside the bushings (item 5).
4. **Figure 10:** Attach the rear of the connection support (item 2) with two 3/8"NC x 1 1/4" lg. allen socket head capscrew (item 4), two ø3/4" ext. x 5/8" lg. bushings (item 5), two spacer plates (item 6) and two 3/8"NC nylon insert nuts (item 7).
5. **Figure 10:** insert the two ø5/8" ext. x ø1/2" int. x 1/2" lg. plastic bushings (item 11) inside the two ø3/4" ext. x 15/32" lg. pivot bushings (item 10).
6. **Figure 10:** Attach the front of the connection support (item 2) with two 3/8"NC x 2" lg. bolts (item 8), two 10mm flat washers (item 9), two ø3/4" ext. x 15/32" lg. pivot bushings (item 10), two ø5/8" ext. x ø1/2" int. x 1/2" lg. plastic bushings (item 11), two Ø3/4" ext. x 1 1/4" lg. pivot bushings (item 12), two spacer plates (item 6) and two 3/8"NC stover nuts (item 13). **IMPORTANT:** Make sure to completely insert the two Ø3/4" ext. x 1 1/4" lg. pivot bushings (item 12) in the slotted holes of the engagement lever (item 1).

Figure 10



N°	PARTS FIGURE 10	QTY
1	Engagement lever	1
2	Connection support	1
3	4 point male hitch	1
4	Allen socket head capscrew 3/8"NC x 1 1/4" lg	2
5	Bushing Ø3/4" ext. x 5/8" lg.	2
6	Spacer plate 2 holes	2
7	Nylon insert nut 3/8"NC	2
8	Hex. bolt. 3/8"NC x 2" lg.	2
9	Flat washer 10MM (10.5MM Ø ext.)	2
10	Pivot bushing Ø3/4" ext. x 15/32" lg.	2
11	Plastic bushing 5/8" OD X 1/2" ID X 1/2" lg.	2
12	Pivot bushing Ø3/4" ext. x 1 1/4" lg.	2
13	Stover nut 3/8"NC	2

ASSEMBLY

STEP 4: INSTALLATION OF THE TENSION SPRINGS

1. **Figure 11:** Gather all the items listed in the table of figure 11.
2. **Figure 11:** Push the engagement lever (item 1) forward as illustrated.
3. **Figure 11:** Hook one end of each tension spring (item 2) to an engagement lever pin (item 3).
4. **Figure 11:** With a vise-grip, not included, (item 5) hook the other end of each spring (item 2) to the male hitch pins (item 4).

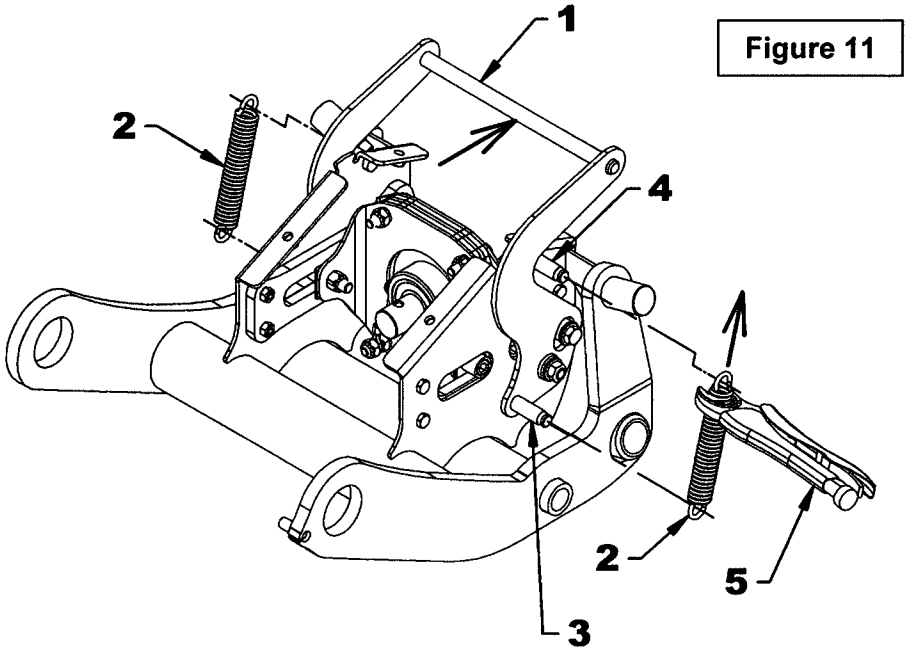


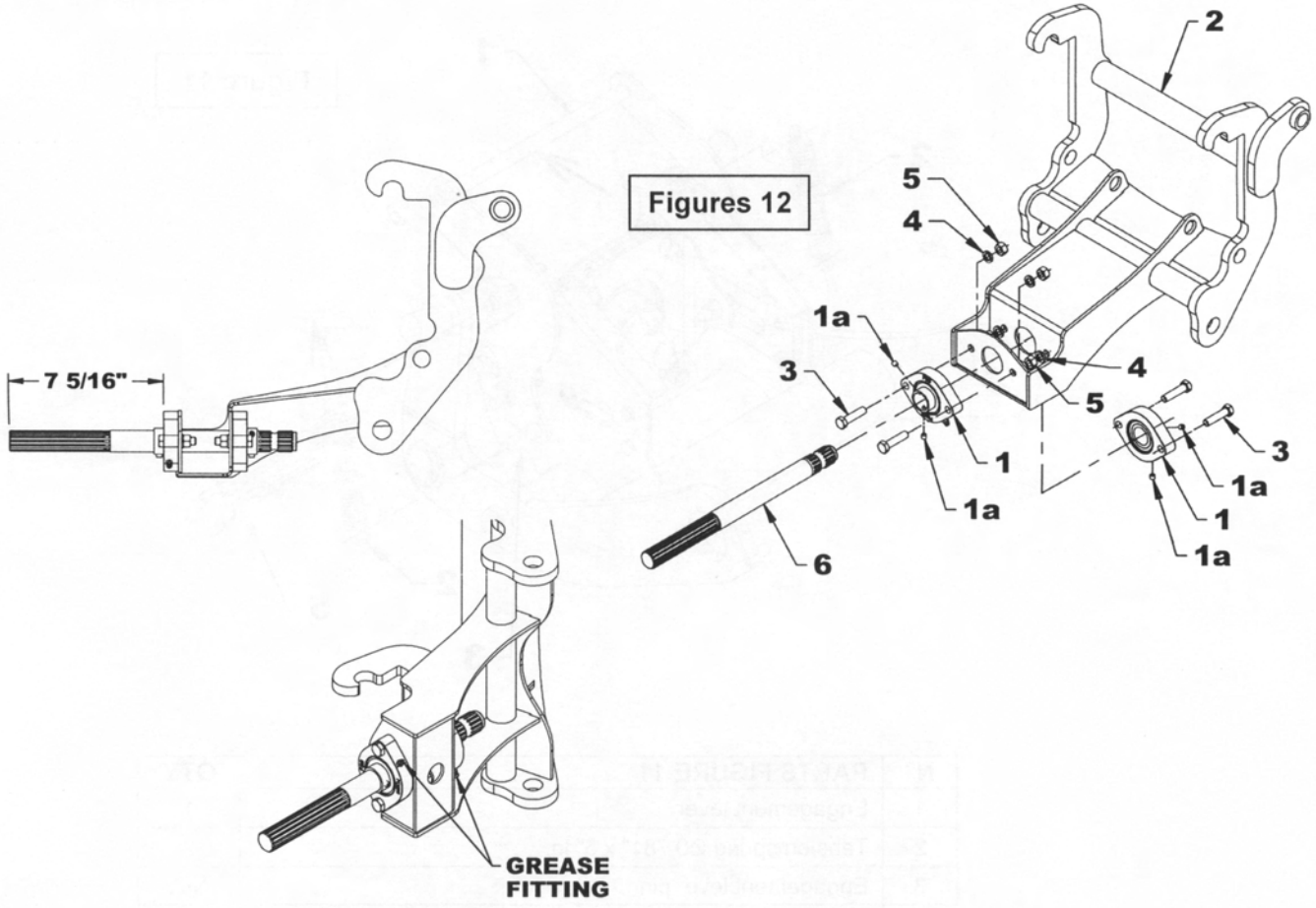
Figure 11

N°	PARTS FIGURE 11	QTY
1	Engagement lever	1
2	Tension spring Ø0.781" x 5" lg.	2
3	Engagement lever pin	N/A
4	Male hitch pin	N/A
5	Vise-grip (not included)	1

ASSEMBLY

STEP 5: INSTALLATION OF THE OUTPUT SHAFT

1. **Figures 12:** Gather all the items listed in the table of figures 12.
2. **Figures 12:** Attach, without tightening, the two flange bearings (items 1) to the subframe (item 2) with two 3/8"NC x 1 1/2" lg. bolts, 3/8"NC lockwashers and nuts (items 3-4-5) making sure the grease fittings point towards the ground as shown on the figure
3. **Figures 12:** Temporarily remove the four setscrews (item 1a) from the flange bearings (items 1) and insert the output shaft (item 6) in the two bearings (items 1).
4. **Figures 12:** Tighten the four 3/8"NC x 1 1/2" lg. bolts (items 3) according to the torque specification table.
5. **Figures 12:** Place the end of the output shaft with the longest splines (item 6) at 7 5/16" of the rear bearing (items 1) as shown on figure.
6. **Figures 12:** Apply thread sealant (loctite #243) in the threaded bearing holes (items 1) and on the threads of the setscrews (items 1a) and screw tightly in the two bearings *(items 1)*.



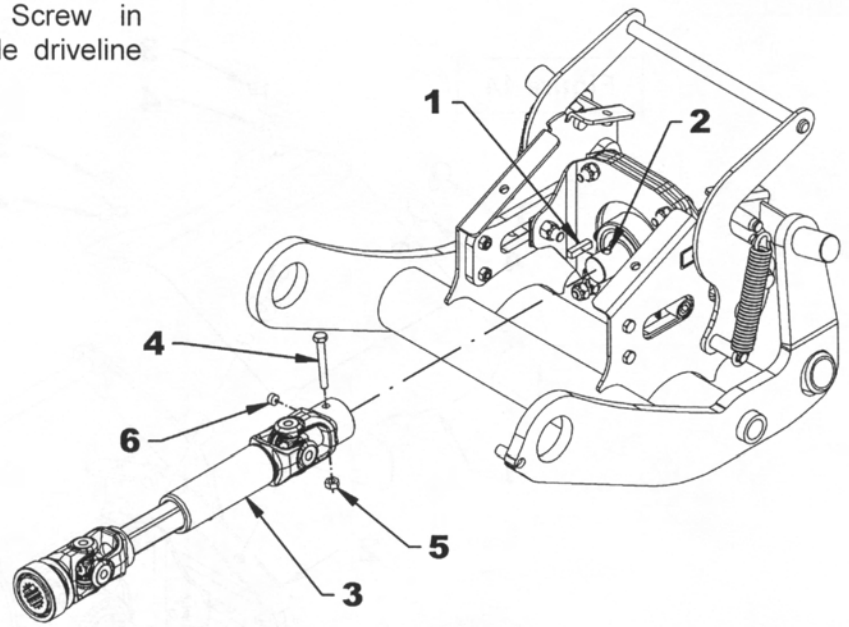
N°	PARTS FIGURES 12	QTÉ
1	Flange bearing 1"	2
2	Subframe	1
3	Hex. bolt 3/8"NC x 1 1/2" lg.	4
4	Lockwasher 3/8"	4
5	Hex. nut 3/8"NC	4
6	Output shaft 1" X 13 3/8" LG	1
N/A	Threadlocker (LOCTITE #243) not included	---

ASSEMBLY

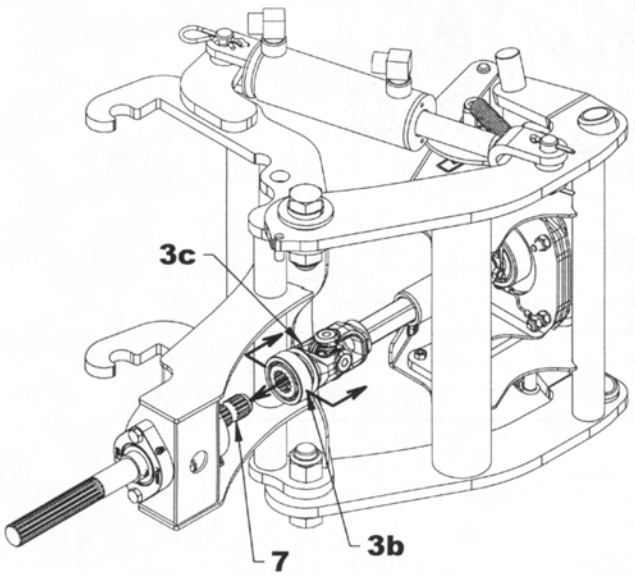
STEP 6: INSTALLATION OF THE TELESCOPIC DRIVELINE

1. **Figures 13:** Gather all the items listed in the table of figures 13.
2. **Figures 13:** Insert the 1/4" x 1/4" x 1" lg. key (item 1) in the clutch shaft keyway (item 2) and attach the driveline (item 3) with the 1/4"NC x 2" lg. bolt (item 4) and the 1/4"NC stover nut (item 5).
3. **Figures 13:** Apply thread sealant (loctite #243) to the 3/8"NC x 1/4" lg. setscrew (item 6) and in the driveline threads (item 3). Screw in setscrew (item 6) tightly in the male driveline yoke (item 3).
4. **Figures 13:** Disengage the locking collar (item 3b) by pushing it back and pull on the yoke (item 3c) to connect the driveline to the output shaft (item 7). Release the yoke and make sure the locking collar is back in its proper position. Pull and push on driveline to make sure it's securely locked.

⚠ **WARNING: To avoid serious injury or death: Make sure that the quick connect yoke is securely locked in place. A "click" must be heard.**



Figures 13



N°	PARTS FIGURE 13	QTY
1	Key 1/4" x 1/4" x 1" lg	1
2	Male automatic clutch shaft	1
3	Driveline	1
4	Hex. bolt 1/4"NC x 2" lg	1
5	Stover nut 1/4"NC	1
6	Allen set screw 3/8" NC x 1/4" lg	1
7	Output shaft 1" x 13 3/8" lg	1
N/A	Threadlocker (LOCTITE #243) not included	---

ASSEMBLY

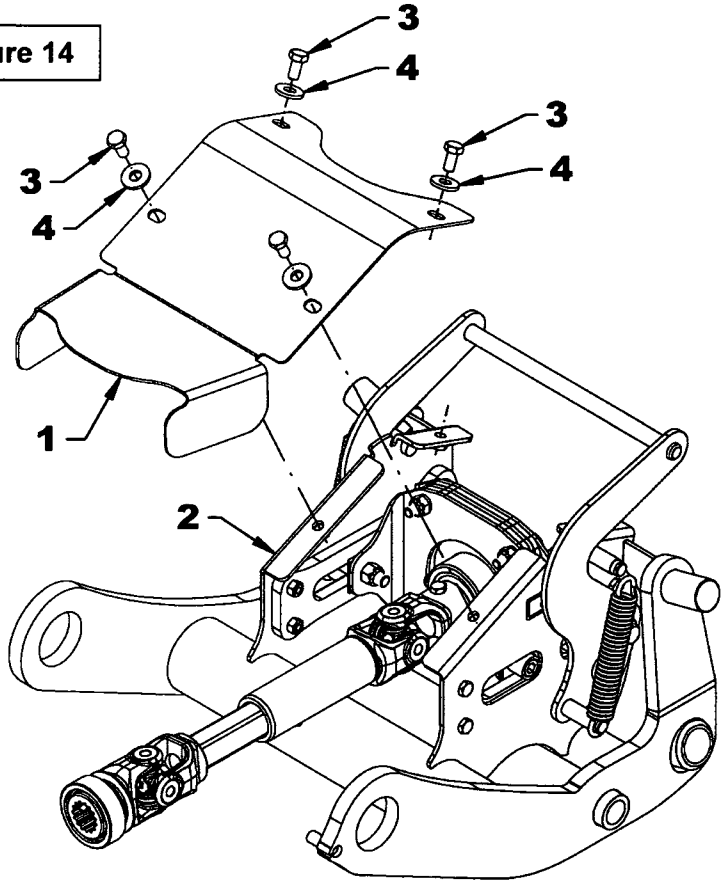
STEP 7: INSTALLATION OF THE DRIVELINE GUARD

IMPORTANT: Before proceeding with the installation of the driveline guard, grease the two flange bearings, the telescopic and fixed drivelines according to the recommendations in the "MAINTENANCE" section on page 35.

1. **Figure 14:** Gather all the items listed in the table of figure 14.
2. **Figure 14:** Attach the driveline guard (item 1) to the male hitch (item 2) with four 5/16"NC x 5/8" lg. bolts (items 3) and four 5/16" flat washers (items 4).

⚠ WARNING: To avoid serious injury or death: Make sure the driveline guard (item 1) is installed BEFORE using the hitch.

Figure 14



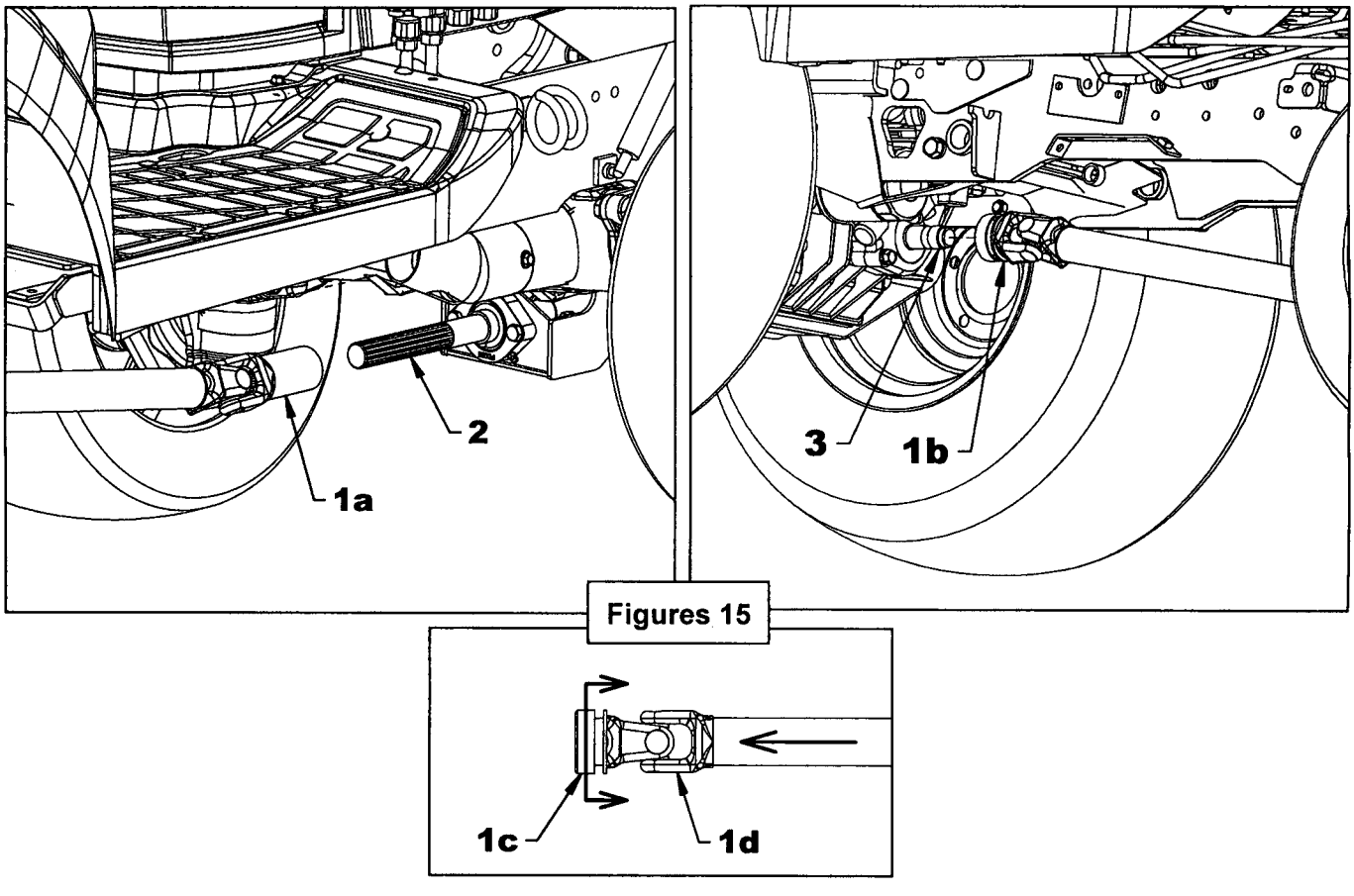
N°	PARTS FIGURE 14	QTY
1	Driveline guard	1
2	4 point male hitch	1
3	Hex. bolt 5/16"NC x 5/8" lg	4
4	Flat washer ø5/16" (3/8" int.)	4

ASSEMBLY

STEP 8: INSTALLATION OF THE FIXED DRIVELINE

1. **Figures 15:** Gather all the items listed in the table of figure 15.
2. **Figures 15:** After completing the installation of the subframe on the tractor attach the longest yoke of the fixed driveline (item 1a) to the output shaft (item 2).
3. **Figures 15:** Disengage the locking collar (item 1c) by pushing it back and pull on the yoke (item 1d) to connect the fixed driveline to the tractor PTO (item 3). Release the yoke and make sure the locking collar is back in its proper position. Pull and push on driveline to make sure it's securely locked.

⚠ **WARNING: To avoid serious injury or death: Make sure that the quick connect yoke is securely locked in place. A "click" must be heard.**



Figures 15

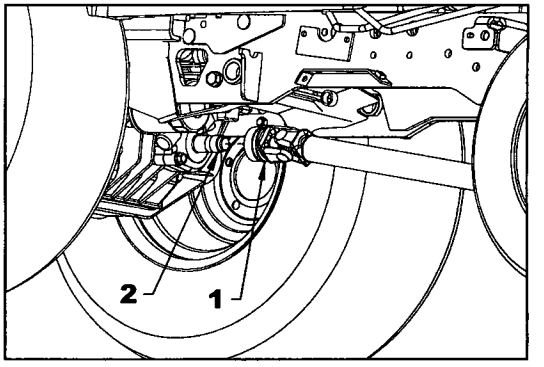
N°	PIÈCES FIGURES 15	QTÉ
1	Fixed driveline, 37 3/8" lg. c/c	1
2	Output shaft 1" x 13 3/8" lg.	1
3	Tractor PTO	1

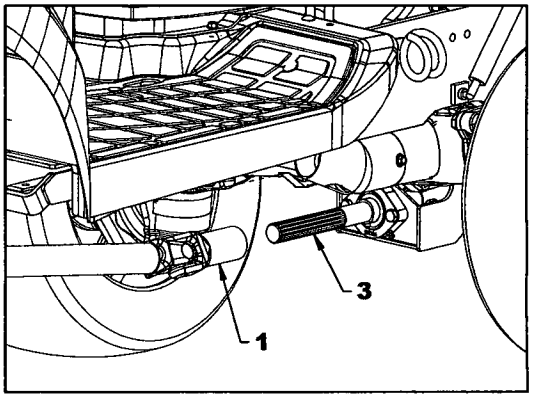
ASSEMBLY

Removing the Subframe from the Tractor (figures 16)

WARNING: To avoid serious injury or death: Park the tractor on level ground, set to neutral, apply parking brake, disengage drive, place all control levers to neutral, shut off the engine, remove the ignition key and make sure all parts in rotation have stopped BEFORE removing the subframe from the tractor.

Figures 16

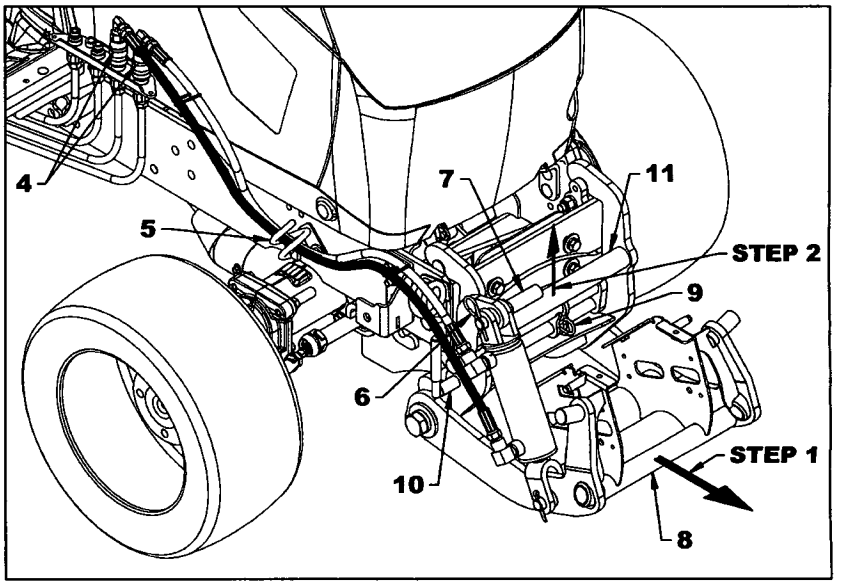




1. Remove the equipment (snowblower, broom or blade) from the subframe by following the instructions in the equipment manual.
2. If applicable, remove the fixed driveline (item 1) from the tractor PTO (item 2) and the subframe output shaft (item 3).
3. Disconnect the couplers (item 4) and remove the hoses from the hose support (item 5).
4. Remove the hairpin (item 6), support the tube of the male hitch (item 8) and remove the upper cylinder pin (item 7). Lower the nose of the male hitch on the ground.
5. Remove the hairpin (item 9) and the L pin (item 10) from the subframe

   IMPORTANT: BEFORE proceeding to the next step, carefully read the safety instruction for figure 5a on page 19.

6. Move the 4 point hitch (item 8) forward as much as possible and lift the subframe by the upper tube (item 11) to unhook it from the tractor front adaptor and place the subframe on the ground.
7. Reinstall the cylinder pin (item 7), the L pin (item 10) and the two hairpins (items 6-9).
8. Roll up the hoses and place them on the subframe.



ASSEMBLY

Reinstalling the Subframe on the Tractor (figures 17)

⚠ **WARNING: To avoid serious injury or death: Park the tractor on level ground, set to neutral, apply parking brake, disengage drive, place all control levers to neutral, shut off the engine, remove the ignition key and make sure all parts in rotation have stopped BEFORE reinstalling the subframe from the tractor.**

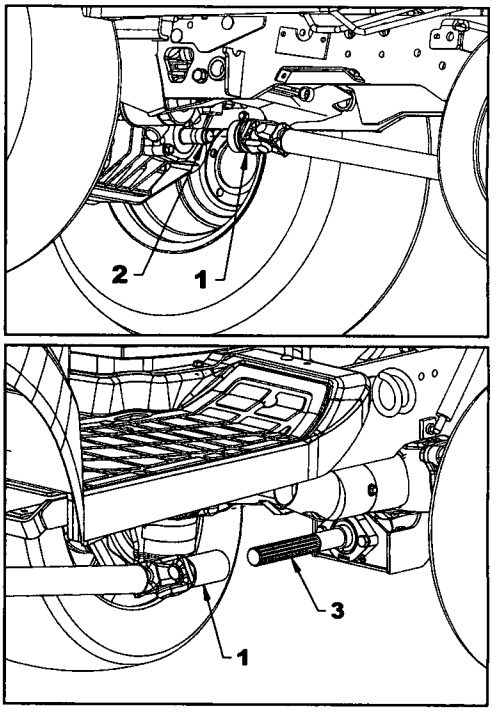
1. Place the subframe in front of the tractor so the subframe hooks are approximately 6" from the tractor.
2. Remove the two hairpins (items 6-9) to remove the cylinder pin (item 7) and the L pin (item 10).

IMPORTANT: BEFORE proceeding to the next step, carefully read the safety instruction for figure 5a on page 17.

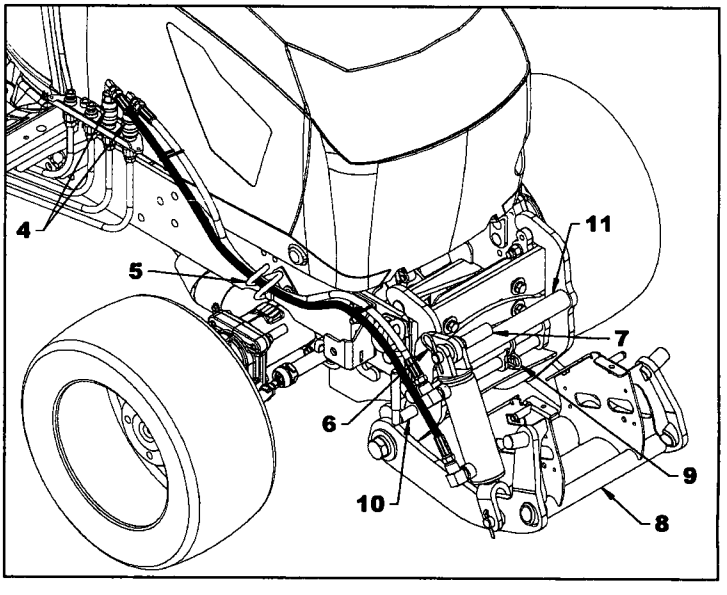
3. Lift the subframe (item 11) to hook it on the tractor front adaptor.
4. With your right hand, insert the 3/4" x 5" lg. pin (item 7) in the first hole of the cylinder making sure it doesn't exceed that first hole
5. Keep your right hand on the cylinder pin (item 7) and with your left hand on the male hitch tube (item 8) lift the hitch and secure the cylinder to the subframe with the pin (item 7) and the hairpin (item 6).
6. Secure the subframe to the front adaptor with the L pin (item 10) and the hairpin (item 9). IMPORTANT: The L pin handle (item 10) must point up and the hairpin must be inserted between the two small plates of the front adaptor
7. Insert the hoses in the rear hose support only (item 5) and connect the couplers (item 4).

   IMPORTANT: Make sure the couplers are clean before connecting them.

8. If applicable, attach the fixed driveline (item 1) à to the output shaft (item 3) and the tractor PTO (item 2).



Figures 17



OPERATION

GENERAL PREPARATION

1. Make sure the equipment driveline is properly secured
2. Make sure the equipment is operating freely.

WARNING: To avoid serious injurious or death:

- **Never allow anyone near the work area.**
- **Never allow anyone to climb on the equipment or the subframe.**
- **Before cleaning, adjusting or repairing the equipment or subframe, immobilize the tractor, wait for the complete stop of the moving parts, set the parking brake, lower the equipment to the ground, shut off the engine and remove the ignition key.**
- **Never place any part of your body under the equipment when making adjustments.**

WARNING
Always operate the equipment from the tractor seat.

WARNING
Operate the equipment at a speed that corresponds to the work area conditions. Be careful when working near a slope or on uneven ground.

WARNING
Always wear safety glasses when operating the equipment.

OPERATION

Controls

The front loader hydraulic valve lever controls the movements of the hitch and equipment installed.

- To RAISE the hitch and equipment, pull on the valve lever.
- To LOWER the hitch, push slightly on the valve lever.
- To place the equipment in FLOAT mode, push on the valve lever completely until it engages and remains in that position. The float mode allows the equipment to follow ground contours when the tractor is moving.

IMPORTANT: Always use float mode when operating the snowblower, blade or broom.

It is however possible to momentarily lock the position of the snowblower or blade when working in an area where the snow has hardened such as roadsides.

OPERATION

Procedure for Connecting and Disconnecting the Equipment

PRECAUTIONS TO FOLLOW BEFORE EACH CONNECTION

1. Make sure the area is clear of any object that could interfere with the connection.
2. Make sure the maintenance of the hitch and equipment is up to date.
3. Make sure the drive system of PTO driven equipment is functional and that there's no residue, snow or ice that would prevent them from operating properly.
4. **Figures 16a-16c:** Make sure the engagement shafts (items 2-8) and the hitches connection points (items 3-7-9-10) are clean and not covered with snow or ice.
5. **Figure 16c:** Make sure the "T" pins (item 7) of the equipment hitch is in the release position.
6. **Figure 16a:** Move the engagement lever (item 1) up and down a few times to make sure the connection mechanism of the drive system operates freely then leave it in the unlocked position as shown on figure
7. **Figure 16b:** Make sure the equipment (snowblower, broom or blade) is slightly tilted backwards as shown on figure.
8. Follow the security measures for operating the tractor.
9. Make sure the tractor PTO is disengaged.

⚠ **WARNING: To avoid serious injuries or death: never engage the tractor PTO when the engagement lever of the male hitch is in the unlocked position and there's no PTO driven equipment installed.**

PROCEDURE TO FOLLOW TO CONNECT THE EQUIPMENT

IT'S IMPORTANT TO FOLLOW THESE STEPS IN THE ORDER INDICATED.

Step 1: Figure 16c: Start the tractor, remove the parking brake and advance slowly making sure to align the equipment female hitch with the male hitch of the tractor. Lower the male hitch enough so the two hitch pins (item 9) can be inserted in the hooks (item 10) of the equipment hitch.

Step 2: With the hydraulic control lever, raise the equipment completely to correctly position the equipment hitch with the tractor hitch.

⚠ **WARNING: To avoid serious injuries or death: always engage the lock of the tractor control lever, set the parking brake et turn off the engine before stepping down from the tractor to connect or disconnect the equipment.**

Step 3: Figure 16d: Insert the two equipment hitch T pins (item 7) in the male hitch bushings (**figure 16a**, item 3).

Step 4: Figure 16d: For the snowblower: raise the parking stand (item 5) completely and secure with the 1/4" x 1 3/4 round locking pin (item 6).

For the broom: disengage the lock of the broom hitch and screw the brush adjustment lever 5 turns to reposition the adjustment.

Step 5: Figure 16e: For PTO driven equipment (snowblower and broom), move the engagement lever (item 1) completely forward (towards the equipment) to engage the drive mechanism.

Step 6: If applicable, connect the hydraulic and/or electric couplers to the tractor couplers.

IMPORTANT: Make sure the hydraulic couplers are clean before connecting them.

OPERATION

Step 7: With the hydraulic control lever, lower the equipment to the ground. However, for the broom, lower as much as possible without the brush touching the ground.

Step 8: Adjust the engine speed to **low rpm** and engage the PTO to complete the engagement of the equipment.

IMPORTANT: The engagement of the PTO must always be done at low rpm so as not to damage the mechanical components.

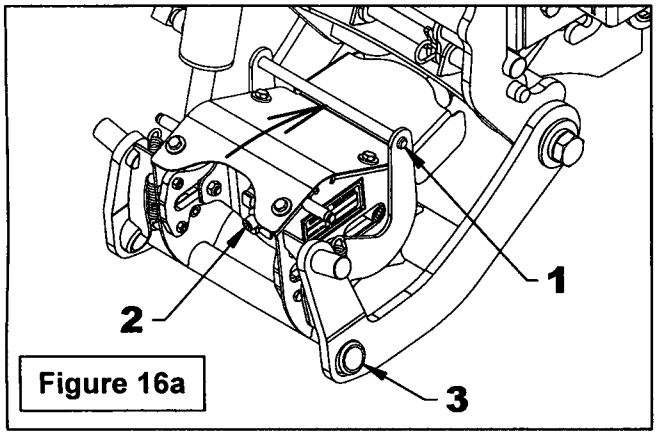


Figure 16a

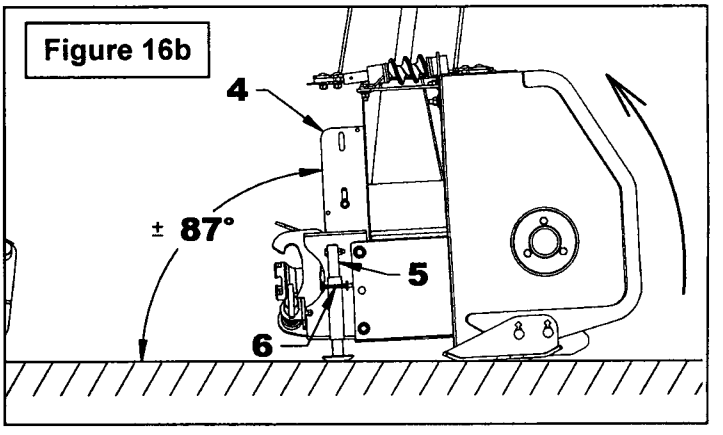


Figure 16b

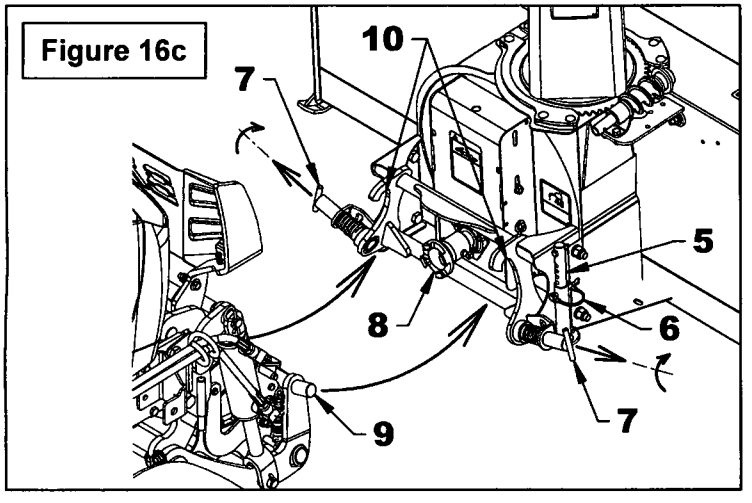


Figure 16c

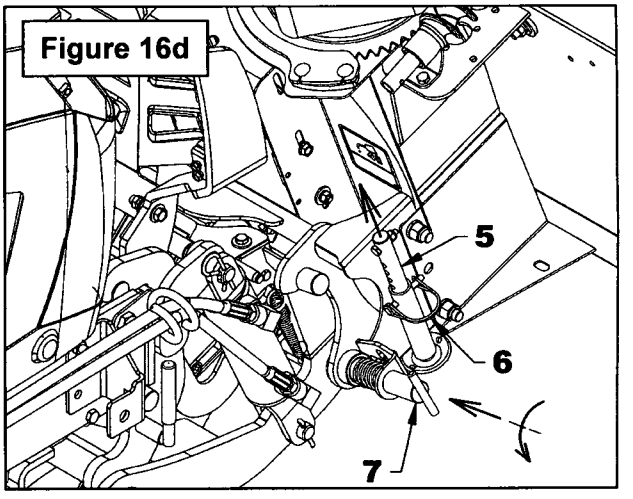


Figure 16d

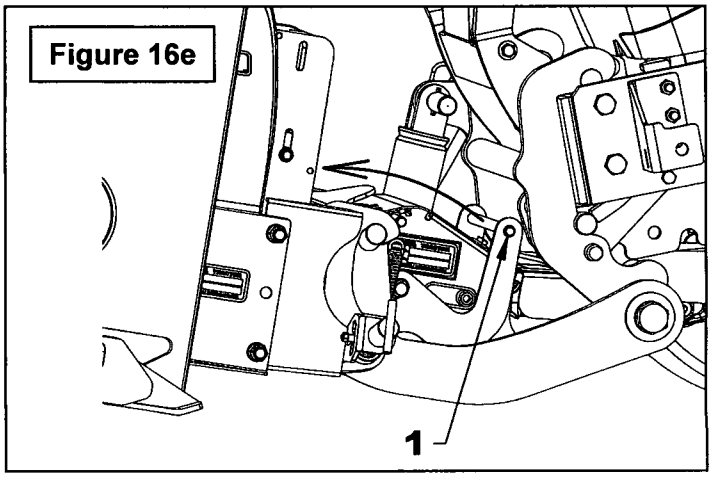


Figure 16e

OPERATION

Procedure for Connecting and Disconnecting the Equipment (cont'd)

PRÉCAUTIONS TO FOLLOW BEFORE EACH DISCONNECTION

1. Make sure the area is clear of any object that could interfere with the disconnection.
2. Follow the security measures for operating the tractor.
3. Make sure the tractor PTO is disengaged.

PROCEDURE TO FOLLOW TO DISCONNECT THE EQUIPMENT

IT'A IMPORTANT TO FOLLOW THESE STEPS IN THE ORDER INDICATED.

Step 1: Start the tractor and raise the equipment completely using the hydraulic control lever.

⚠ **WARNING: To avoid serious injuries or death: always engage the lock of the tractor control lever, set the parking brake et turn off the engine before stepping down from the tractor to connect or disconnect the equipment.**

Step 2: Figure 17: For PTO driven equipment, move the engagement lever (item 1) back completely.

Step 3: For equipment with hydraulic and/or electric functions, remove the couplers and/or connectors, roll up the hoses and/or wiring and place on the equipment.

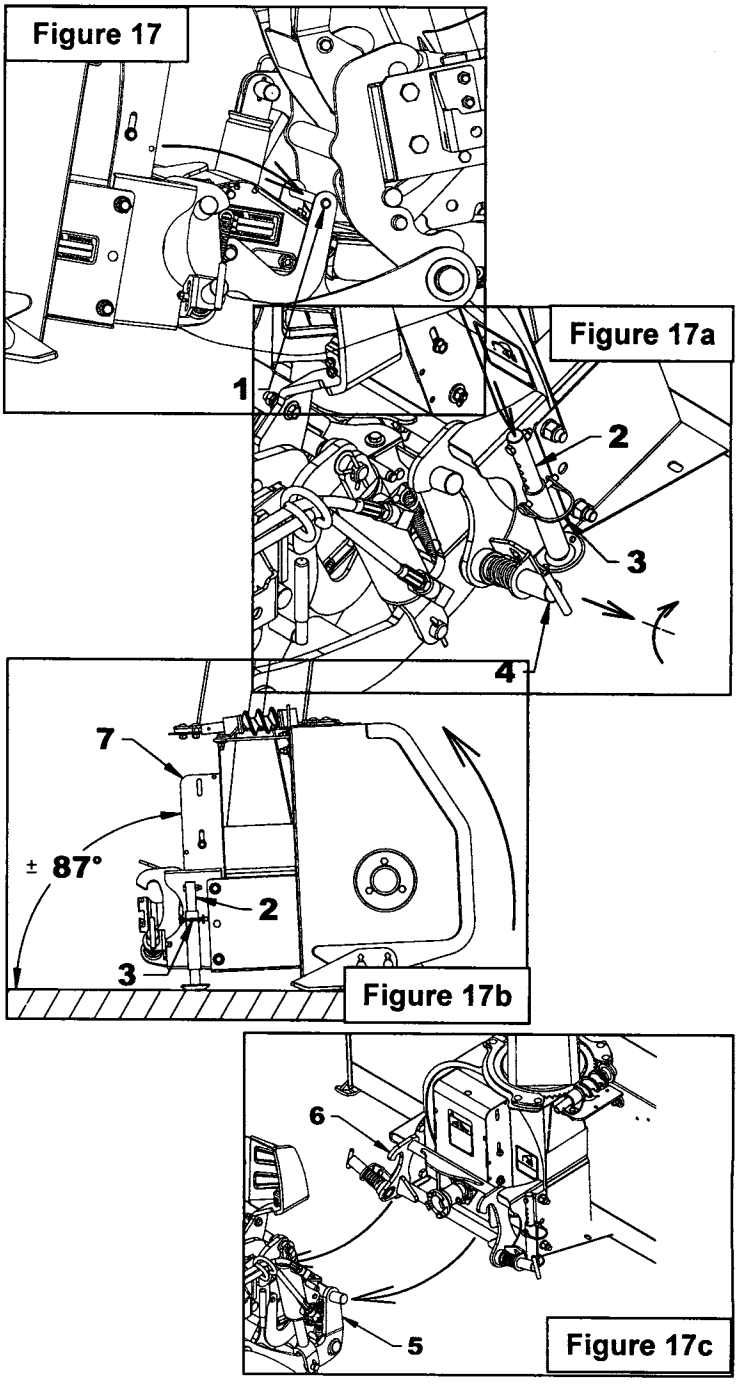
Step 4: Figure 17a: For the snowblower, lower the parking stand (item 5) keeping the snowblower slightly tilted backwards when it's removed from the hitch (refer to instructions at **figure 17b)**. Secure the parking stand (item 5) with the round wire lock pin (item 6).

For the broom, disengage the lock of the broom hitch and unscrew the brush adjustment lever 5 turns to allow the hitch to tilt backwards.

Step 5: Figure 17a: Release the two T pins (item 7) from the equipment hitch.

Step 6: Figure 17b: Lower the equipment slowly to the ground with the tractor's control lever and make sure the position of the equipment once removed is tilted backwards as shown on figure. If it's not, lift the equipment and reposition the parking stand (item 2).

Step 7: Figure 17c: Remove the male hitch (item 5) from the equipment hitch (item 6) by backing up slowly.



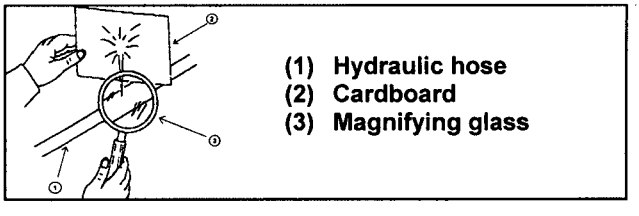
MAINTENANCE

ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED

1. Keep the tractor and equipment properly maintained.
2. Park the tractor/equipment on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the snowblower to the ground, place all control levers in neutral, shut off the engine and remove the ignition key and allow the rotating parts to stop BEFORE making any adjustments.
3. To avoid injury, do not adjust, unblock the drive system, or service the equipment with the tractor engine running.
4. Keep the tractor/snowblower clean. Snow, dirt or ice build-up can lead to malfunction or serious personal injury.
5. Always wear eye protection when cleaning or servicing the equipment or subframe
6. DO NOT service the tractor while the engine is running or hot, or if the unit is in motion. Always lower snowblower to the ground. If necessary to service snowblower in raised position, securely support with stands or suitable blocking before working underneath. Do not rely on hydraulically supported devices for your safety. They can settle suddenly, leak down, or be accidentally lowered
7. Always shut off the engine BEFORE unblocking the equipment and performing repairs, adjustments or inspections.
8. The manufacturer will not claim responsibility for fitment of unapproved parts and/or accessories and any damages as a result of their use.
9. Make sure all shields and guards are securely in place following all service, cleaning, or repair work.
10. Do not modify or alter this snowblower or any of its components or operating functions. If you have questions concerning modifications, consult with your dealer.
11. Do not operate a snowblower that is defective or has missing parts. Make sure that all recommended maintenance procedures are completed before operating the snowblower.
12. Check all controls regularly and adjust when necessary. Make sure that the brakes are correctly adjusted.
13. Periodically check all nuts and bolts for tightness, especially wheel hub and rim nuts.
14. Stop engine and relieve pressure before connecting or disconnecting hydraulic hoses. Tighten all connections before starting engine or pressurizing hoses.

⚠ WARNING: To avoid serious personal injury. Escaping hydraulic/ diesel fluid under pressure can penetrate the skin causing serious injury.

- **Do not use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.**



- **Stop engine and relieve pressure before connecting or disconnecting lines.**
- **Tighten all connections before starting engine or pressurizing lines.**
- **If any fluid is injected into the skin, obtain medical attention immediately or gangrene may result.**

MAINTENANCE

IMPORTANT: Perform all the maintenance section without taking into account the hours given in the following cases:

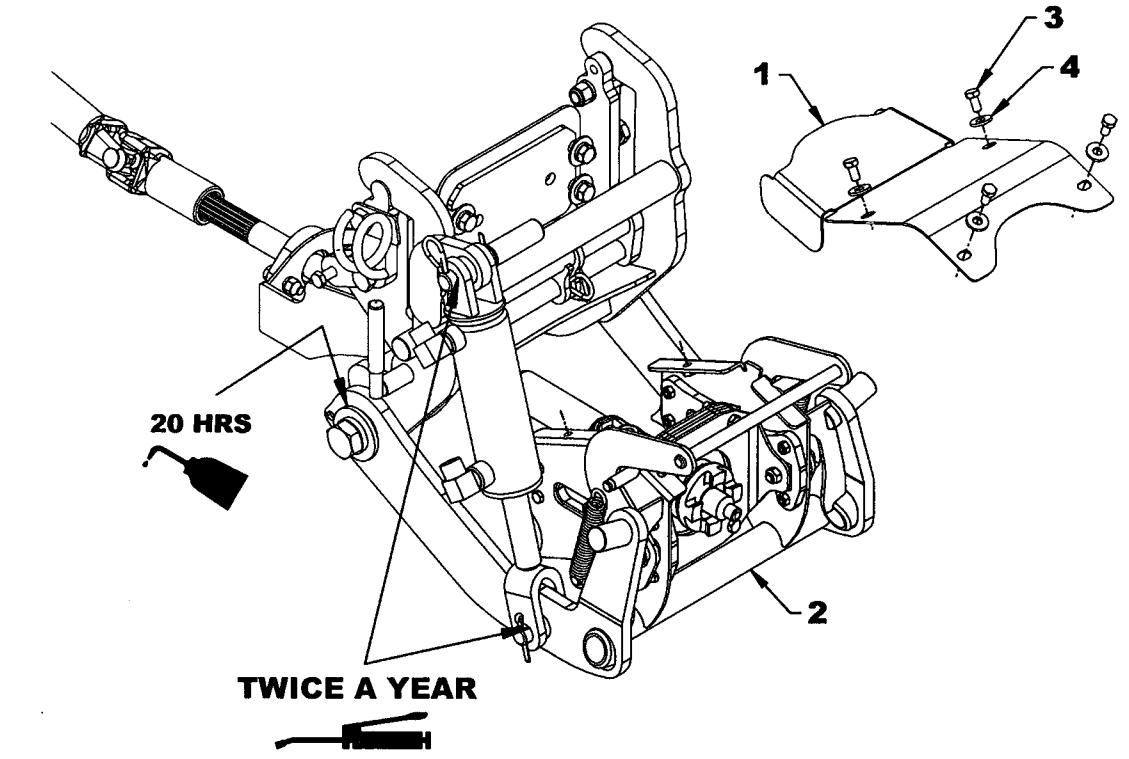
- At least once a year if the subframe and drive kit are used less than 20 hours annually.
- After each storage period..
- After each wash.

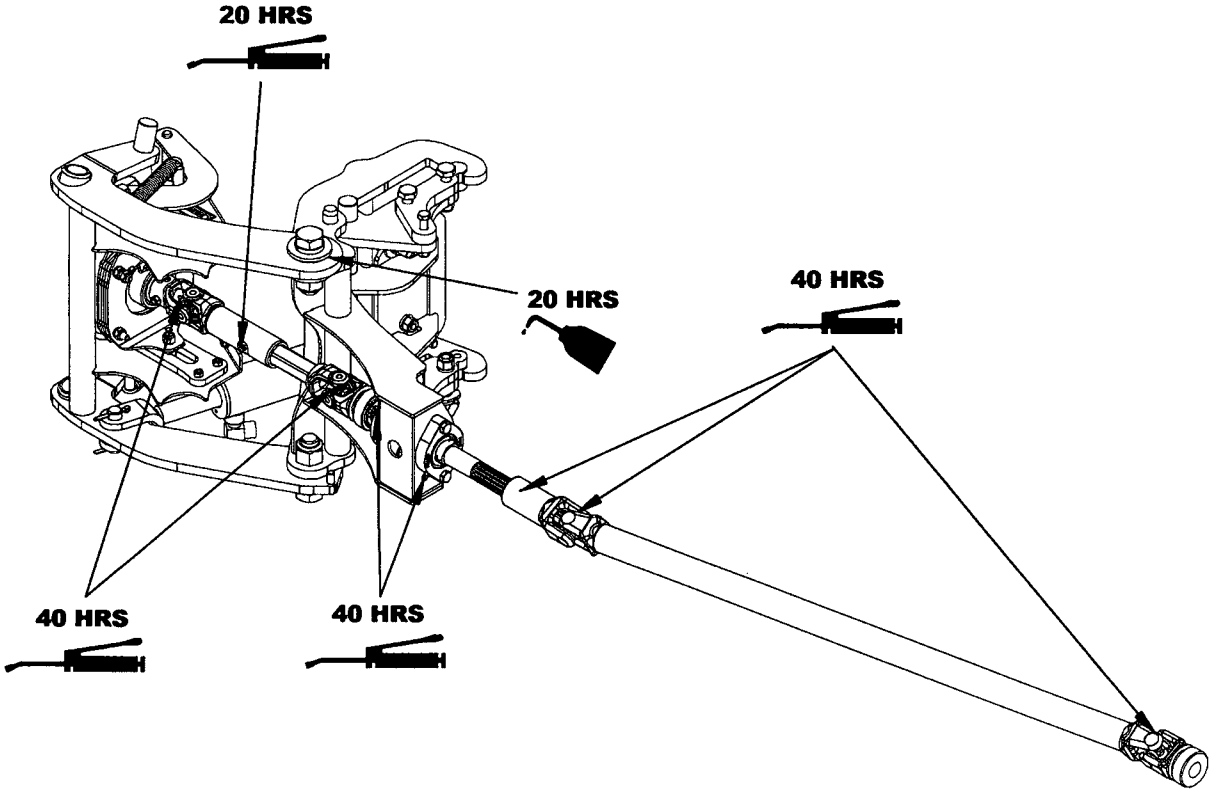
MAINTENANCE SCHEDULE		
DESCRIPTION	**INTERVAL**	**REQUIRED MAINTENANCE**
Hardware	After the first 8 hours of operation	Tightens all bolts and nuts according to the Torque Specification Table.
	40 hours of operation	
Connection points	After each equipment connection	Visual inspection of the clutch shaft, hydraulic/electric connectors and the hitch connection points. Clean if necessary.
Driveline telescopic joint	Before first use	Grease the telescopic joint.
	20 hours of operation	**Use a grease grade N.L.G.I. # 2 with a good thermal and mechanical stability that can be used in temperatures ranging from -50°C to 150°C (-58°Fto 302°F)** Number of pumping cycles: 5
Driveline journal crosses	Before first use	Grease the journal crosses.
	40 hours of operation	**Use a lithium soap grease E.P. compatible grade N.L.G.I. # 2 and containing no more than 1% of molybdenum disulfide.** Number of pumping cycles : 8-10
Pivot bushings of the hitch	20 hours of operation	Lubricate the bushings. **Use chainsaw oil heavy grade.**
Flange bearings	Before first use	Grease the flange bearings.
	20 hours of operation	**Use a lithium soap grease E.P. compatible grade N.L.G.I. # 2 and containing no more than 1% of molybdenum disulfide.** Number of pumping cycle: 3-4
Cylinder pins	Twice a year	Clean and grease the pins and bushings.
Hydraulic, electric and connection systems	After the first 8 hours	• Visual inspection to detect hydraulic leaks. Tighten, repair or replace if necessary.
	40 hours of operation	• Visual inspection of the electrical wiring and connectors. Repair or replace if necessary.

Note: To get access to the K-Connect driveline, the driveline guard (item 1) must be removed from the male hitch (item 2) by removing the four bolts and flat washers (items3 4).

⚠ **WARNING: To avoid serious injuries or death make sure to reinstall the driveline guard (item 1) before using the hitch.**

MAINTENANCE





TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTIVE MESURES
1. Hydraulic couplers are hard or impossible to connect.	• Hoses, tractor side, are pressurized.	• Turn the engine off and activate the valve control lever in all directions.
	• Female couplers #77700-05839 (equipment side) are partially open. The small coupler balls are visible.	• Press on the elbow behind the coupler to reposition the coupler.
	• The hydraulic couplers are defective.	• Repair the couplers. • Replace the hydraulic couplers.
2. When moving the engagement lever there is a sound of grinding metal/metal.	• Dirt has accumulated on the drive mechanism.	• Clean and lubricate as described in the maintenance section
	• The anti-friction are damaged or too worn.	• Replace the anti-friction guides..
3. The engagement lever # 77700-07772 is very difficult to move.	• Outside temperature is extremely or very cold.	• To reduce the problem, lubricate the driveline telescopic joint and the 4 sliding pins with grease recommended in the maintenance section. **Note**: In very cold weather it is normal that the mechanism is more difficult to move. To facilitate the movement, push as to move the lever slowly. • Check if there is snow/ice accumulated on the mechanism and remove it.
	• Dirt has accumulated on the entire mechanism.	• Clean and lubricate as described in the maintenance section.
	• Tension springs # 77700-07781 are damaged	• Replace the springs.
	• There is residue or snow/ice accumulated on the male clutch shaft # 77700-04150 and/or equipment clutch shaft.	• Clean male and female shafts.

MAINTENANCE

PROBLEM	POSSIBLE CAUSE	CORRECTIVE MESURES
4. After connecting the equipment, mechanical engagement produces a rattling sound and is hesitant.	• Activation of the tractor PTO is performed when the tractor engine is running at high rpm.	• Activate the tractor PTO when the tractor engine running at low rpm.
	• Outside temperature is extremely or very cold.	• Lubricate the driveline telescopic joint with grease recommended in the maintenance section • Bring the tractor inside and wait between 30 min. and 1 hour that everything has warmed up,.
	• There is residue or snow/ice accumulated on the male clutch shaft # 77700-04150 and/or equipment clutch shaft.	• Clean male and female shafts.
	• One or both tension springs # 77700-are damaged.	• Replace the damaged springs.
	The male clutch shaft # 77700-04150 and/or equipment clutch shaft are damaged.	• Replace the damaged shafts.
	• Activation of the tractor PTO was done when the equipment was raised high.	• Engage tractor PTO when the equipment is on or close to the ground.
5. During operation of the mechanical drive, there is excessive vibration.	• There is residue or snow/ice accumulated on the male clutch shaft # 77700-04150 and/or equipment clutch shaft.	• Clean male and female shafts.
	• One or both tension springs # 77700-are damaged.	• Replace the damaged springs.
	The male clutch shaft # 77700-04150 and/or equipment clutch shaft are damaged.	• Replace the damaged shafts.
	• The connection support # 77700-05816 (see Parts section for details) is damaged.	• Replace defective connection support.
	• One or more drivelines were deformed.	• Check the linearity of the drivelines and replace the deformed drivelines.

STORAGE

Before storing the subframe or implement, certain precautions should be taken to protect it from deterioration.

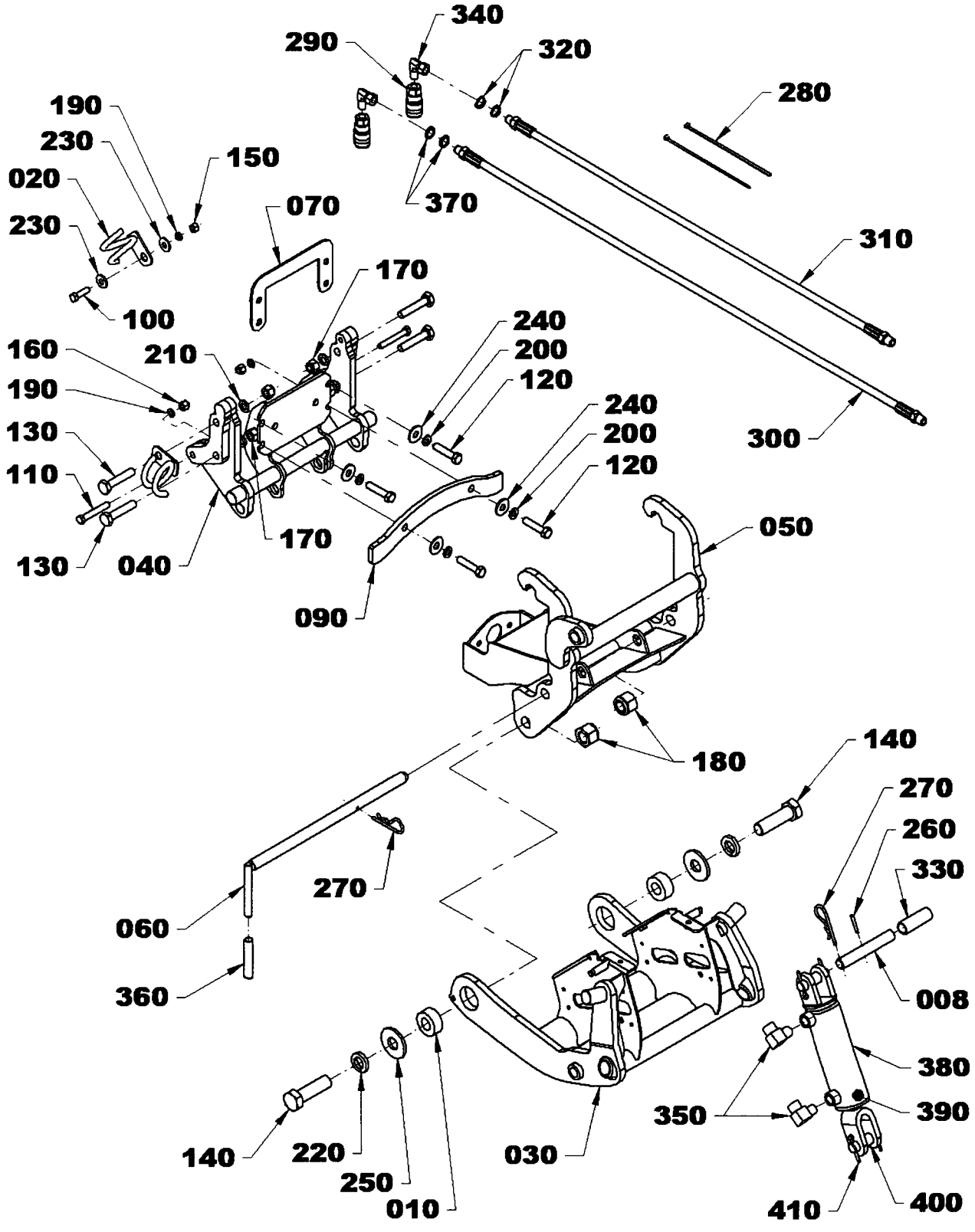
1. Clean the subframe and implement thoroughly.
2. Make all the necessary repairs.
3. Replace all safety signs that are damaged, lost, or otherwise become illegible. If a part to be replaced has a label on it, obtain a new safety label from your dealer and install it in the same place as on the removed part.
4. Repaint all parts from which paint has worn or peeled.
5. Lubricate the subframe and implement as instructed under **"Lubrication"** section.
6. When the subframe and implement are dry, oil all moving parts. Apply oil liberally to all surfaces to protect against rust.
7. Store in a dry place.

PARTS

HITCH AND SUBFRAME BX2810				
REF.	PART #	QTY	DESCRIPTION	CODE
010	70060-00758	2	Pivot bushing ø1 3/4" PTD	665826
020	77700-04288	2	Hose support	670319
030	77700-07766	1	4-point male hitch "A" shape	671558
040	77700-07767	1	Front adaptor	671563
050	77700-07768	1	Subframe	671564
060	77700-07769	1	Pin "L" Ø 3/4" x 14 3/4" lg. PTD	671575
070	77700-07770	1	Retaining plate for bolts	671576
080	77700-07771	1	Pin 3/4" X 5" lg PTD	671586
090	77700-07780	1	Spacer 3/8" thick	671631
100	75599-01325	1	Bolt hex. 3/8"NC x 1 1/4" lg. Gr. 5, PTD	0100039
110	75599-01350	2	Bolt hex. 3/8"NC x 2 1/2" lg. gr.5 PTD	0100044
120	77700-04646	4	Bolt hex. 7/16" NC x 2" lg. gr.5 PTD	0100060
130	77700-04800	4	Bolt hex.1/2"NC x 2 1/2" lg. gr.5 PTD	0100076
140	77700-03452	2	Bolt hex.7/8"NC x 3" lg. gr.5 PTD	0100228
150	75599-31013	1	Nut hex. 3/8"NC PTD	0900003
160	75599-31913	2	Nut hex. nylon insert 3/8" NC PTD	1000006
170	75599-31915	4	Nut hex. nylon insert 1/2" NC PTD	1000011
180	77700-04009	2	Nut hex. nylon insert 7/8" NC PTD	1000014
190	75599-33013	3	Lockwasher 3/8" PTD	1200004
200	75599-33014	4	Lockwasher 7/16" PTD	1200005
210	75599-33015	6	Lockwasher 1/2" PTD	1200006
220	77700-04011	2	Lockwasher ø7/8" PTD	1200009
230	75599-32014	2	Flat washer 3/8" PTD	1400004
240	75599-32015	4	Flat washer 7/16" PTD	1400005
250	77700-04227	2	Flat washer 7/8", PTD	1400012
260	77700-01669	1	Spring pin ø3/16" X 1 1/4"	1600007
270	70060-04187	2	Hairpin 4 mm x 80 mm	1800002
280	70060-02398	2	Tie wrap 8" LG. X 4.8mm, black	2100003
290	77700-07782	2	Quick coupler 1/4"NPT F	2600249
300	77700-07017	1	Hose 1/4" x 45", 1/4"NPT M x 3/8"NPT M	3700291
310	77700-07783	1	Hose 1/4" x 37", 1/4"NPT M x 3/8"NPT M	3700303
320	77700-00997	2	Identification ring - white	4200032
330	77700-07784	1	Handle 3/4" x 2 1/2" lg., plastic	4200056
340	70001-00599	2	Elbow 90° 1/4"NPT M x 1/4"NPT PVF	655211
350	70060-70380	2	Elbow 90°, 3/8"NPT M X 3/8"NPT F	655314
360	70060-01318	1	Handle 1/2" x 3" lg., plastic	656797
370	70060-01569	2	Identification ring - yellow	658206
380	70001-00871	1	Cylinder 2" x 5"	665433
390	70001-00872	1	Seal kit for cylinder	665434
400	70001-00795	1	Pin 3/4" x 2 1/2" lg. PTD (incl. with cylinder)	665235
410	77700-01116	2	Cotter pin 3/16" x 1 1/2" lg. (incl. with cylinder)	1500013

PARTS

HITCH AND SUBFRAME BX2810

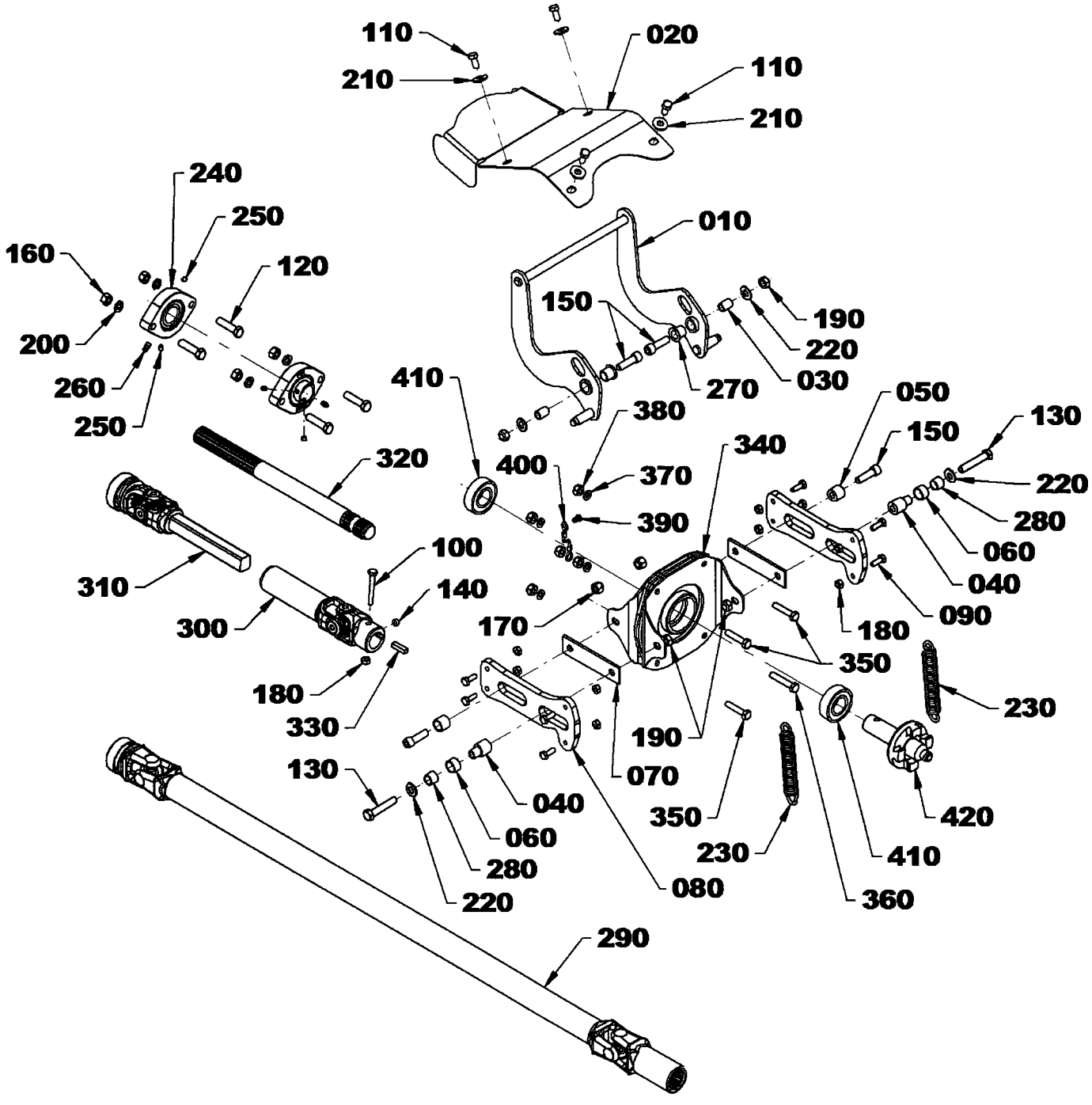


PARTS

DRIVE SYSTEM "K-CONNECT"- BX2811				
REF.	PART #	QTY	DESCRIPTION	CODE
010	77700-07772	1	Engagement lever	671590
020	77700-07773	1	Driveline guard	671591
030	77700-07774	2	Pivot bushing 1/2" x 11/16" lg. PTD	671592
040	77700-07775	2	Pivot bushing 3/4" OD x 1 1/4" lg. PTD	671593
050	77700-07776	2	Bushing 3/4" x 5/8" lg. PTD	671594
060	77700-07777	2	Pivot bushing 3/4" x 15/32" lg. PTD	671595
070	77700-07778	2	Spacer plate 2 holes	671596
080	77700-07779	2	Anti-friction guide 3/8"	671597
090	75599-01115	8	Bolt hex. 1/4"NC x 3/4" lg. gr. 5 PTD	0100003
100	75599-01140	1	Bolt hex. 1/4"NC x 2" lg. gr. 5 PTD	0100010
110	75599-01212	4	Bolt hex. 5/16"NC x 5/8" lg. gr. 5 PTD	0100017
120	75599-01330	4	Bolt hex. 3/8"NC x 1 1/2" lg. gr. 5 PTD	0100040
130	75599-01340	2	Bolt hex. 3/8"NC x 2" lg. gr. 5 PTD	0100042
140	77700-02236	1	Allen set screw 3/8"NC x 1/4" lg, gr. 5, black	0500030
150	77700-04311	4	Allen socket head cap screw 3/8 NC x 1 1/4" PTD	0800048
160	75599-31013	4	Nut hex. 3/8"NC PTD	0900003
170	75599-31913	2	Nut hex. nylon insert 3/8"NC PTD	1000006
180	70060-02441	9	Nut stover 1/4"NC PTD	1100001
190	70060-04442	4	Nut stover 3/8"NC PTD	1100003
200	75599-33013	4	Lockwasher 3/8" PTD	1200004
210	75599-32012	4	Flat washer 5/16" PTD	1400003
220	70060-01942	4	Flat washer 10mm PTD	1400019
230	77700-07781	2	Tension spring 0.781" x 0.142" wire x 5" lg.	2200049
240	70060-02699	2	Flange bearing 1"	4300054
250	77700-02662	4	Allen set screw 1/4"NC x 1/4" lg. gr. 5 black (incl. in 70060-02699)	0500002
260	70060-00940	2	Grease fitting 1/4"NF (incl. in 70060-02699)	654106
270	77700-04147	2	Shoulder bushing Ø5/8" OD x Ø1/2" ID x 5/8" lg	4300102
280	77700-05845	2	Bushing 5/8" OD x 1/2" ID x 1/2" lg plastic.	4300122
290	70060-02186	1	Fixed driveline, 07E series, 37 3/8" lg.	4700049
300	77700-03436	1	Driveline – female section 07E series, 5 15/16" lg.	4700241
310	77700-06667	1	Driveline – male section 07E series, 7 3/8" lg.	4700318
320	77700-07785	1	Output shaft 1" x 13 1/2" lg.	4700322
330	70060-00928	1	Key 1/4" x 1/4" x 1" lg.	655379
340	77700-04138	1	Connection support ass'y (includes #350 to 420)	670117
350	75599-01230	3	Bolt hex. 5/16"NC x 1 1/2" lg. gr. 5 PTD (incl. in 77700-04138)	0100021
360	77700-04136	1	Bolt hex. 5/16"NC x 1 3/4" lg. gr. 5 PTD (incl. in 77700-04138)	0100022
370	75599-33012	4	Lockwasher 5/16" PTD (incl. in 77700-04138)	1200003
380	75599-31912	5	Nut nylon insert 5/16"NC PTD (incl. in 77700-04138)	1000005
390	77700-04145	1	Allen button head capscrew 1/4" NC x 3/8" lg. gr. 5 PTD (incl. in 77700-04138)	0800051
400	77700-04178	1	Cable 3/32" x 4 3/16" lg. (incl. in 77700-04138)	2200030
410	70001-00566	2	Bearing 1" int. (incl. in 77700-04138)	663916
420	77700-04150	1	Male automatic clutch shaft 1" PTD (incl. in 77700-04138)	4700246

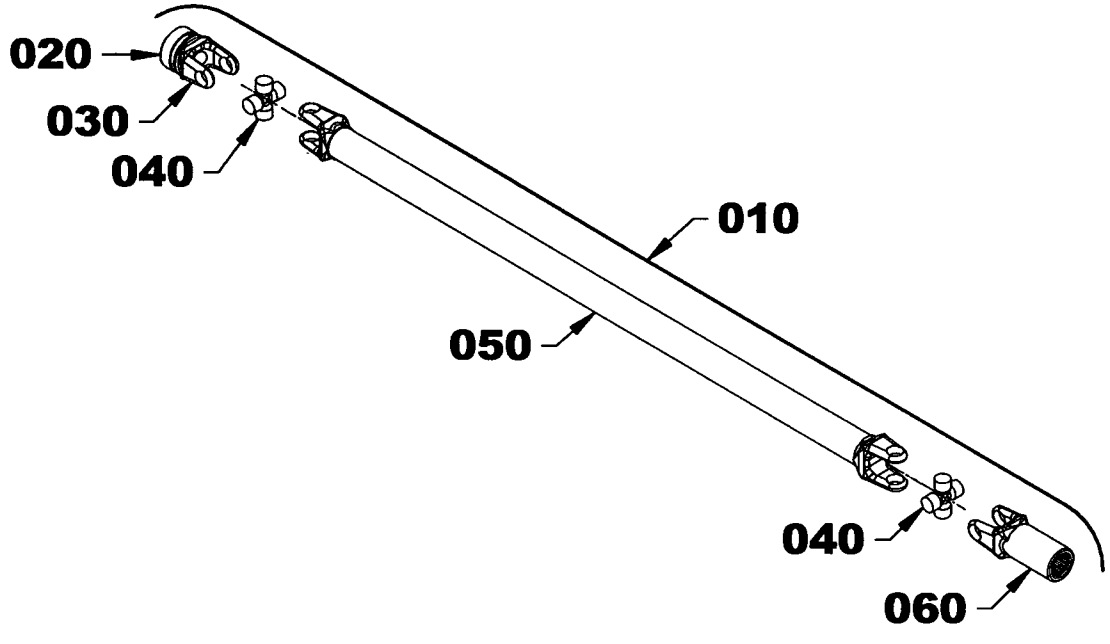
PARTS

DRIVE SYSTEM "K-CONNECT"- BX2811



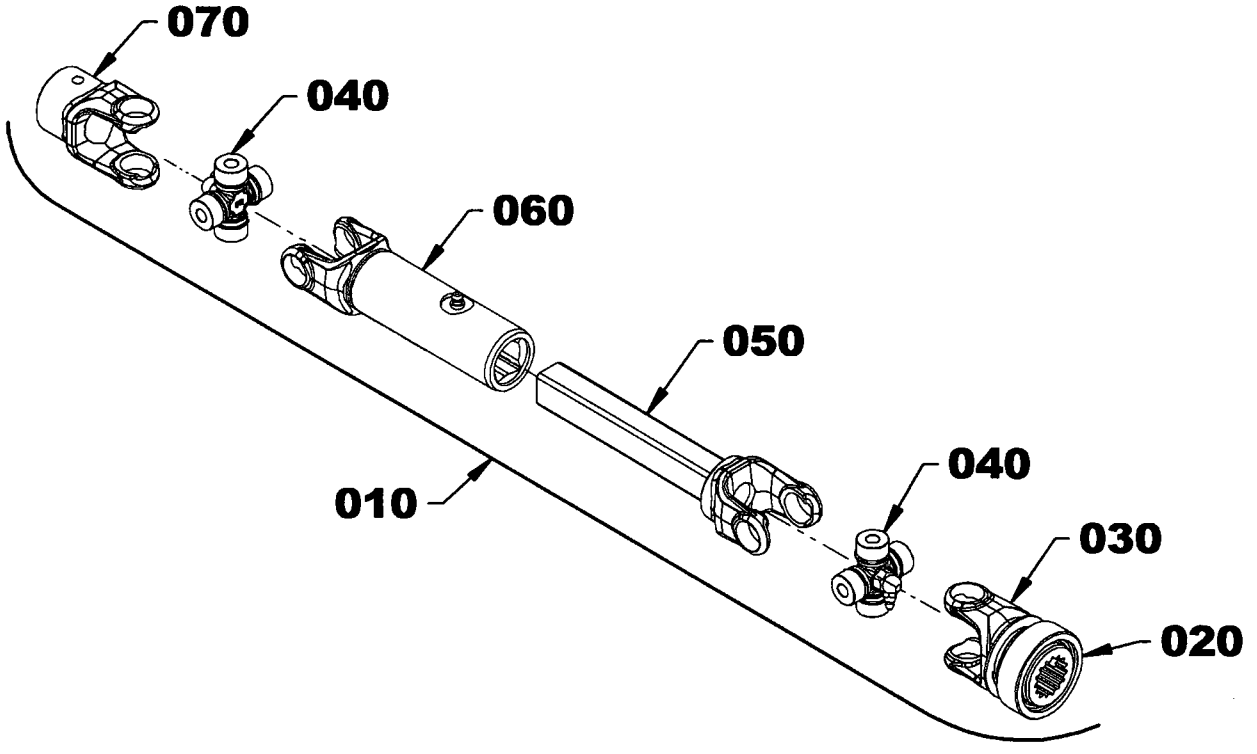
PARTS

FIXED DRIVELINE 70060-02186				
010	70001-02186	1	Fixed driveline, 07E series, 37 3/8"	4700049
020	70060-01478	1	Spring lock repair kit	658113
030	70060-02339	1	Spring lock yoke assembly	4700070
040	70060-02335	2	Journal cross kit	4700066
050	70060-02338	1	Yoke and shaft ass'y 37 1/4" lg C/C	4700069
060	70060-02337	1	Yoke for splined shaft	4700068



PARTS

DRIVELINE 77700-06666 (INCLUDES 77700-03436 & 77700-06667)				
010	77700-06666	1	Driveline assembly	4700317
020	70060-01478	1	Spring lock repair kit	658113
030	70060-02334	1	Spring lock yoke	665810
040	70060-02335	2	Journal cross kit	4700066
050	77700-03435	1	Male shaft and yoke	4700240
060	77700-03437	1	Female shaft and yoke	4700242
070	70060-02348	1	Yoke	4700072



AVAILABLE EQUIPMENT

50" SNOWBLOWER

BX2816

COMMERCIAL SNOWBLOWER 55"

BX2822

60" BLADE HD

BX2812

ROTARY BROOM 60"

BX2814

TORQUE SPECIFICATION TABLE

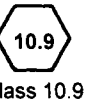
GENERAL SPECIFICATION TABLE

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

Note: These values apply to fasteners as received from supplier dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly sidulphide greases or other extreme pressure lubricants are used. These values apply to dry conditions; under lubricated conditions reduce by 25% the torques in this table.

BOLT HEAD IDENTIFICATION

INCHES Bolt Size	 Grade 2		 Grade 5		 Grade 8	
in-tpi [1]	N-m [2]	lbs-ft [3]	N-m	lbs-ft	N-m	lbs-ft
1/4" - 20NC	7.4	5.6	11	8	16	12
1/4" - 28NF	8.5	6	13	10	18	14
5/16" - 18NC	15	11	24	17	33	25
5/16" - 24NF	17	13	26	19	37	27
3/8" - 16NC	27	20	42	31	59	44
3/8" - 24NF	31	22	47	35	67	49
7/16" - 14NC	43	32	67	49	95	70
7/16" - 20NF	49	36	75	55	105	78
1/2" - 13NC	66	49	105	76	145	105
1/2" - 20NF	75	55	115	85	165	120
9/16" - 12NC	95	70	150	110	210	155
9/16" - 18NF	105	79	165	120	235	170
5/8" - 11NC	130	97	205	150	285	210
5/8" - 18NF	150	110	230	170	325	240
3/4" - 10NC	235	170	360	265	510	375
3/4" - 16NF	260	190	405	295	570	420
7/8" - 9NC	225	165	585	430	820	605
7/8" - 14NF	250	185	640	475	905	670
1" - 8NC	340	250	875	645	1230	910
1" - 12NF	370	275	955	705	1350	995
1 1/8" - 7NC	480	355	1080	795	1750	1290
1 1/8" - 12NF	540	395	1210	890	1960	1440
1 1/4" - 7NC	680	500	1520	1120	2460	1820
1 1/4" - 12NF	750	555	1680	1240	2730	2010
1 3/8" - 6NC	890	655	1990	1470	3230	2380
1 3/8" - 12NF	1010	745	2270	1670	3680	2710
1 1/2" - 6NC	1180	870	2640	1950	4290	3160
1 1/2" - 12NF	1330	980	2970	2190	4820	3560

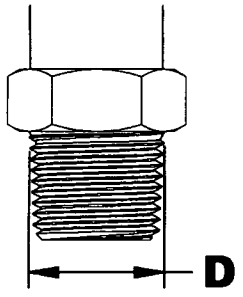
METRIC Bolt Size	 Class 5.8		 Class 8.8		 Class 10.9	
mm x pitch [4]	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft
M 5 X 0.8	4	3	6	5	9	7
M 6 X 1	7	5	11	8	15	11
M 8 X 1.25	17	12	26	19	36	27
M 8 X 1	18	13	28	21	39	29
M10 X 1.5	33	24	52	39	72	53
M10 X 0.75	39	29	61	45	85	62
M12 X 1.75	58	42	91	67	125	93
M12 X 1.5	60	44	95	70	130	97
M12 X 1	90	66	105	77	145	105
M14 X 2	92	68	145	105	200	150
M14 X 1.5	99	73	155	115	215	160
M16 X 2	145	105	225	165	315	230
M16 X 1.5	155	115	240	180	335	245
M18 X 2.5	195	145	310	230	405	300
M18 X 1.5	220	165	350	260	485	355
M20 X 2.5	280	205	440	325	610	450
M20 X 1.5	310	230	650	480	900	665
M24 X 3	480	355	760	560	1050	780
M24 X 2	525	390	830	610	1150	845
M30 X 3.5	960	705	1510	1120	2100	1550
M30 X 2	1060	785	1680	1240	2320	1710
M36 X 3.5	1730	1270	2650	1950	3660	2700
M36 X 2	1880	1380	2960	2190	4100	3220

[1] in-tpi = nominal thread diameter in inches-threads per inch
[2] N-m = newton-meters
[3] lbs-ft= pounds-foot
[4] mm x pitch = nominal thread diameter in millimeters x thread Pitch

*Torque tolerance +0%, -15% of torquing values. Unless otherwise specified use torque values listed above

ADAPTER INSTALLATION PROCESS

NPT THREAD IDENTIFICATION & TORQUE



D		Identification of adapter	Number of turns to do after manual tightening
in	mm		
0.375	9.5	1/8 NPT	2.0 - 3.0
0.500	12.5	1/4 NPT	2.0 - 3.0
0.625	15.9	3/8 NPT	2.0 - 3.0
0.780	19.8	1/2 NPT	2.0 - 3.0
0.988	25.1	3/4 NPT	2.0 - 3.0
1.236	31.4	1 NPT	1.5 - 2.5
1.583	40.2	1 1/4 NPT	1.5 - 2.5
1.823	46.3	1 1/2 NPT	1.5 - 2.5

RECOMMENDED ASSEMBLY

The method used to assemble fittings with NPT threads is done in two stages. First firmly tighten by hand then tighten once again according to the number of turns listed in the above table. The following steps are recommended to minimize the risks of leaks and/or damages to the parts.

STEP 1: Inspect threads and tapping to make sure they are clean.

STEP 2: Measure the diameter (D) of the adapter and take note of the size taken.

STEP 3: Apply a sealant/lubricant product to the NPT threads (teflon covered threads are preferable to other lubricating products). If PTFE tape (teflon) is used, make between 1.5 or 2 turns clockwise, when viewed by the fitting end, keeping free the two first threads.

CAUTION: **More than 2 turns can cause distortion or cracks in the orifice.**

STEP 4: Tighten the fitting manually.

STEP 5: Screw the fitting the number of turns listed on the above table making sure that in the case of an elbow fitting the end is aligned to the desired position to connect the tube or hose. **Never unscrew a fitting to obtain the proper alignment.**

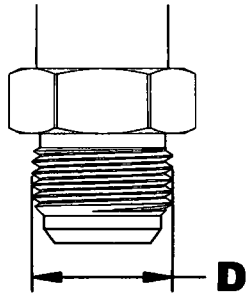
STEP 6: If a leak is detected after having followed the preceding instructions, check that the threads are not damaged and the number of seated threads is fulfilled (see details in next paragraph).

If the threads are damaged, replace the fitting. If the tapping is damaged, retap if possible or replace the part.

Usually, the number of threads seated is between 3.5 and 6. If the range is different it would indicate that the fitting was tightened too much or not enough or that the tightening was not within thread tolerances. If the fitting is not tight enough, tighten but never more than one turn. If it's too tight, control the threading and tapping and replace the section that has threads that are not within tolerances.

ADAPTER INSTALLATION PROCESS

JIC THREAD IDENTIFICATION & TORQUE



D		Identification	TORQUE	
in	mm	of adapter	lbs-ft	N-m
-	-	5/16 JIC	6-7	8-10
-	-	3/8 JIC	6-9	8-12
0.433	11	7/16 JIC	9-12	12-16
0.496	12.6	1/2 JIC	14-15	19-21
0.559	14.2	9/16 JIC	18-20	24-27
0.740	18.8	3/4 JIC	27-39	37-53
0.870	22.1	7/8 JIC	36-63	49-85
1.055	26.8	1 1/16 JIC	65-88	88-119
1.185	30.1	1 3/16 JIC	75-103	102-140
1.307	33.2	1 5/16 JIC	85-113	115-153
1.618	41.1	1 5/8 JIC	115-133	156-180
1.870	47.5	1 7/8 JIC	125-167	169-226
2.492	63.3	2 1/2 JIC	190-258	258-350

JIC flare fittings seal with metal to metal contact between the flared nose of the fitting and the flared tube face in the female connection.

The minimum torque values listed are to provide a benchmark that give optimum results for leak free connections. Actual torque values should be based on individual application.

NOTE: Do not apply thread sealant (teflon tape) on the JIC threads.

Leaks can result from vibration, thermal cycling and from loads being supported by the connection (i.e. using the fitting in the connection to support mechanical loads).

IMPORTANT: Use the lowest torque value from the chart when wet torquing.

RECOMMENDED ASSEMBLY

STEP 1: Inspect for possible contamination or damage from shipping or handling. Sealing surface should be smooth.

STEP 2: Lubricate the threads and the entire surface of the cone with hydraulic fluid or a light lubricant.

STEP 3: Align mating components for hand connection and turn flare nut until sealing surfaces make full contact.

STEP 4: Torque nut to the values shown in the above table.

STEP 5: When torquing nut onto a straight flared fitting, it may be necessary to also place a wrench on the flared fitting wrench pad to prevent it from turning during assembly.

ALTERNATE ASSEMBLY METHOD

STEP 1: Inspect for possible contamination or damage from shipping or handling. Sealing surface should be smooth.

STEP 2: Lubricate the threads and the entire surface of the cone with hydraulic fluid or a light lubricant.

STEP 3: Align mating components for hand connection and turn flare nut until sealing surfaces make full contact.

STEP 4: Lightly wrench tighten the nut until there is resistance.

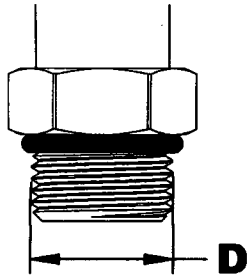
STEP 5: Place a wrench on wrench pad next to nut as near the 6 o'clock position as possible.

STEP 6: Place second wrench on nut as near the 3 o'clock position as possible.

STEP 7: Turn nut clockwise to no less than the 4 o'clock position, but no more than the 6 o'clock position. Required rotation generally decreases as size increases.

ADAPTER INSTALLATION PROCESS

ORB (O-RING BOSS) THREAD IDENTIFICATION & TORQUE



D		Identification	TORQUE	
in	mm	of adapter	lbs-ft	N-m
-		3/8 ORB	8-9	12-13
0.433	11	7/16 ORB	13-15	18-20
0.496	12.6	1/2 ORB	14-15	19-21
0.559	14.2	9/16 ORB	23-24	32-33
0.740	18.8	3/4 ORB	40-43	55-57
0.870	22.1	7/8 ORB	43-48	59-64
1.055	26.8	1 1/16 ORB	68-75	93-101
1.185	30.1	1 3/16 ORB	83-90	113-122
1.307	33.2	1 5/16 ORB	112-123	152-166
1.618	41.1	1 5/8 ORB	146-161	198-218
1.870	47.5	1 7/8 ORB	154-170	209-230
2.492	63.3	2 1/2 ORB	218-240	296-325

SAE O-rings (O-Ring Boss) are straight thread fittings that seal using an O-ring between the thread and the wrench flats of the fitting. The O-ring seals against the machined seat on the female port.

O-ring fittings can be either adjustable or non-adjustable. Nonadjustable fittings are screwed into a port where no alignment is needed. Adjustable fittings can be oriented in a specific direction.

Fittings with O-rings offer advantages over metal-to-metal fittings. Under or over-tightening any fitting can allow leakage, but all-metal fittings are more susceptible to leakage because they must be tightened to a higher and narrower torque range. This makes it easier to strip threads or crack or distort fitting components, which prevents proper sealing.

NOTE: Do not apply thread sealant (teflon tape) on the ORB threads.

Leaks can also result from vibration, thermal cycling and from loads being supported by the connection (i.e. using the fitting in the connection to support mechanical loads).

IMPORTANT: Use the lowest torque value from the chart when wet torquing.

RECOMMENDED ASSEMBLY ORB (O-RING) NON-ADJUSTABLE

STEP 1: Inspect all components for damage or contamination.

STEP 2: Lubricate O-ring and threads on fitting with your hydraulic system fluid.

STEP 3: Turn fitting into port until finger tight, then torque to the value shown in the following table.

NOTE: Use the lowest torque value from the chart when wet torquing.

RECOMMENDED ASSEMBLY ORB (O-RING) ADJUSTABLE

STEP 1: Inspect all components for damage or contamination.

STEP 2: Lubricate O-ring and threads on fitting with your hydraulic system fluid.

STEP 3: Looking at fitting from the male ORB end, turn manually the nut as far as possible from the O-ring.

STEP 4: Using wrench, turn fitting into port until the washer touches thread nearest wrench pad.

STEP 5: Back off fitting counterclockwise not exceeding one revolution until it is oriented in the correct position.

STEP 6 : Place wrench on the wrench pad of fitting to prevent fitting from turning, and torque nut to the value shown in the above table.

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