

NB

Models

NB80-180 • NB80-210 • NB80-240 • NB80-270
NB120-210 • NB120-240 • NB120-270 • NB120-300

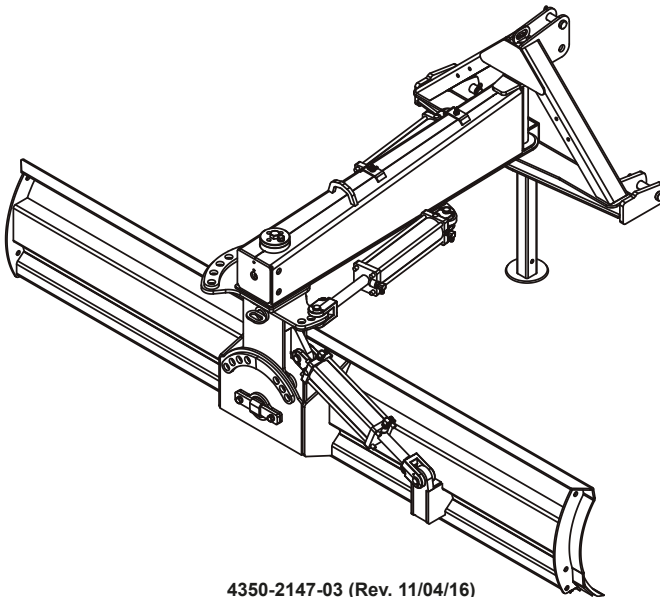


INTRODUCTION

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage.

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners.



4350-2147-03 (Rev. 11/04/16)





TO OUR CUSTOMERS:

Congratulations for acquiring a Bison® product.

We are confident in your excellent decision to purchase Bison® equipment, and are honored to have you as our valued customer.

Your dealership shall make the technical pre-delivery of your equipment, and a trained technician shall provide you maintenance and operation instructions contained in this manual. Get in contact with your dealership representative if you have questions regarding your equipment or need specialized help.

We recommend that you read this manual before operating the equipment. Therefore, the time you take to learn about all maintenance features, adjustments and recommendations will result in the long, efficient life of your equipment.

This equipment is covered by a warranty duration provided by your Bison® authorized dealer at the purchase or technical delivery of same.

Bison® is a Brand of Tecnomec Agrícola, S.A. de C.V., Aguascalientes, México.

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GENERAL INFORMATION

OPERATOR'S MANUAL

If this manual is lost or destroyed
a new copy can be requested to:

TECNOMEC AGRICOLA S.A. DE C.V.
Carr. a Paso Blanco, Km 2 No. 400
Col. Vista Hermosa, Jesús María
Aguascalientes, México. C.P. 20905
Tel. 01 (449) 922 47 66, 922 47 60
Fax 01 (449) 922 47 67

NB rear blade series, is designed to work safely, nevertheless, take into consideration the following:

Read this manual to understand proper handling and maintenance of your rear blade.

Write its serial number in the warranty section to recover the machine in case of theft. Keep this manual in a safe place. Do not keep it in the machine.

A careful operator is the best guarantee against any accident as improper operation of this machinery can provoke serious injuries and death.

Before operating make sure there are no individuals around the rear blades.

While transporting the rear blade, make sure that all adjustment pins are complete and correctly installed. Verify that the blade is at least 40 cm. lifted from the ground.

To achieve a more efficient and higher quality work is important to read and execute instructions and set your rear blade operation as an implement well lubricated with the proper settings saves time, labor, and fuel.

Once finishing your work, clean and inspect your rear blade to detect possible flaws.

GENERAL INFORMATION

Tecnomec Agrícola offers original spare parts, thru authorized dealers.

Our trained personnel, is well versed on methods to service to your equipment. If you need additional information or custom assistance please contact your Bison authorized dealership or directly to TECNOMEC AGRÍCOLA S.A. DE C.V.

YOUR AUTHORIZED DISTRIBUTOR TECNOMEC AGRÍCOLA, S.A. DE C.V.

IT IS THE POLICY OF TECNOMEC AGRICOLA TO CONTINUOUSLY IMPROVE ITS PRODUCTS AND RESERVES THE RIGHT TO MAKE CHANGES TO ITS SPECIFICATIONS OR DESIGN WITHOUT INCURRING IN THE OBLIGATION TO APPLY THEM TO UNITS ALREADY SOLD.

CURRENT MODELS MAY VARY IN SOME DETAILS GIVEN CONTINUOUS IMPROVEMENT TO WHICH OUR PRODUCTS ARE SUBMITTED.

*Some pictures show equipment that is not necessarily included as part of the standard machine.



LISTS OF INSPECTION

PRE-DELIVERY INSPECTION MADE BY BISON DEALERSHIP

Once the rear blade has been adjusted completely, check and ensure that it is ready for proper operation prior to delivery to the customer. The following checklist is a reminder of checkpoints. Verify that each point is satisfactory and recheck once a proper adjustment has been made.

- Check the rear blade is properly assembled.
- Checks that bolts, nuts and screws are tighten.
- Check that all grease fittings are lubricated.
- Check that all hydraulic cylinders had been properly adjusted.
- Clean the rear bladend retouch where the paint is peeled or scratched.
- Ensure all labels and protective covers to be properly fixed and without any damage.
- Safely attach the disc harrow to the tractor hitch and ensure that there are no leaks on hydraulic system.
- Check that hydraulic components are operating properly. Ensure the machine has all features required by client.

Date of Assembly _____ Name and Signature of Technician _____

LISTS OF INSPECTION

DELIVERY BY BISON DEALERSHIP

The following list is an important information remainder to be transmitted directly to the customer at the moment of the delivery of the Rear Blade.

Check each point once it was duly explained to the client.

- Point out to the customer that useful life of this or any other machine is dependant of proper lubrication as described on its operator's Manual.
- Hand your customer the operator's Manual and fully explain all operations, lubrication and maintenance adjustments.
- Explain the importance of a proper and safe operation of the machine. Stress the importance of labels as those prevent the operator from hazards due to unsafe operation procedures and conditions.
- Notify the client of accessories or options available.
- When the rear blade is transported on roads or highways during the day or night, you should use lights or safety devices to alert drivers of other vehicles. Advise the customer about the official rules of the local town traffic. We recommend using slow-moving vehicle emblem (SMV).
- Show the customer how to mount the implement.
- Explain to the customer the serial number registration of rear blade in the space provided at the end of this operator's manual.
- Fill out the forms of delivery and warranty, listing the serial number of the implement. Explain the warranty, and perform a release form where the client and the distributor agree upon.
- The machine is delivered and ready to use, the customer has been informed all about the operation and care of it.

Date of Delivery _____ Name and Signature _____

OWNER REGISTRATION

Name _____

City _____

State _____

Serial number _____

Model number _____

Purchase date _____

LISTS OF INSPECTION

POST-SALES INSPECTION

It's advised that the following items are constantly checked during first hours of operation.

- Fully check the machinery and certify there are no damaged parts. Repair or change if necessary. All guards shall be in place.
- Check there are no loose or missing screws.
- If possible, operate the rear blade to verify its proper operation.
- Check the operator's manual in full with your client and highlight importance of a regular and proper lubrication as well as safety precautions.

Inspection Date _____ Name and Signature _____

MORNING OPERATION INSPECTION

Lube all points in need of daily lubrication and those that require lubrication at a recommended time.

- Ensure all screws are complete and parts tighten.
- Check that mounting components are safe.
- Ensure that all hydraulic connections are properly tightened.

SEASONAL INSPECTION

- Check general state of rear blade (normal wear and tear, no bumps, no leaks in hoses, etc.)
- Ensure that proper lubrication has been made.
- With rear blade in operation, check operation of moving parts.
- Check any failure signal of operation and check there is no unusual vibration or noise.

SPECIFICATIONS

SPECIFICATIONS		NB80-180	NB80-210	NB80-240	NB80-270
Length of Blade	ft	6	7	8	9
Approximate Weight (Manual/Hydraulic)	lbs	780/880	815/915	850/950	880/980
King Pin Diameter	in	3 1/4			
Height and Thickness of Moldboard	in	19 1/4			
Blade dimensions		1/2" x 6" reversible blade			
Maximum HP	hp	65	70	75	80
Hitch type		3-pt CAT II / Quick attach CAT II ¹			
Swing angle	°	10 positions up to 50°, left or right (manual). Adjusts up to 45°, left or right (hydraulic) ² .			
Offset adjustment	in	4 positions up to 30", left or right (manual). Adjusts up to 24", left or right (hydraulic) ² .			
Tilt angle	°	3 positions up to 21°, up or down (manual). Adjusts up to 21°, up or down (hydraulic) ² .			
Total rotation		360			
Stand		Standard			

ESPECIFICACIONES		NB120-210	NB120-240	NB120-270	NB120-300
Length of Blade	ft	7	8	9	10
Approximate Weight (Manual/Hydraulic)	lbs	970/1070	1025/1125	1080/1180	1125/1235
King Pin Diameter	in	3 1/4			
Height and Thickness of Moldboard	in	19 1/4			
Blade dimensions		1/2" x 6" reversible blade			
Maximum HP	hp	90	100	110	120
Hitch type		3-pt CAT II / Quick attach CAT II ¹			
Swing angle	°	10 positions up to 50°, left or right (manual). Adjusts up to 45°, left or right (hydraulic) ² .			
Offset adjustment	in	4 positions up to 30", left or right (manual). Adjusts up to 24", left or right (hydraulic) ² .			
Tilt angle	°	3 positions up to 21°, up or down (manual). Adjusts up to 21°, up or down (hydraulic) ² .			
Total rotation		360			
Stand		Standard			

¹ Bushings not included.

² Optional hydraulic control requires standard 3" x 8" hydraulic cylinders.

* Tecnomec Agrícola, S.A. de C.V. reserves the right to make any changes deemed necessary to the specifications without prior notice.

* Some pictures may include options that are not a part of the standard equipment.

SPECIFICATIONS

This equipment is designed to help you be more competitive, performing tasks which involve the leveling of agricultural land.

GENERAL USES

- A) Leveling of agricultural land.
- B) Ditching.
- C) Road dredging.
- D) Make bunkers.
- E) Adjustments in canal slopes.
- F) Rural roads maintenance.
- G) Pens and barnyard cleaning.

ADVANTAGES

- A) This equipment can be mounted farm tractor's third point hitch of 65-80 hp on NB80 and 90-120 on NB120.
- B) High-strength bolt.
- C) Imported hydraulic cylinders.
- D) Offset, tilt and angle adjustments can be controlled manually or hydraulically.

E) The offset, tilt, and angle adjustments can be performed in both directions without changing the side of the cylinders like other models.

F) Cat. II quick couplers to the tractor.

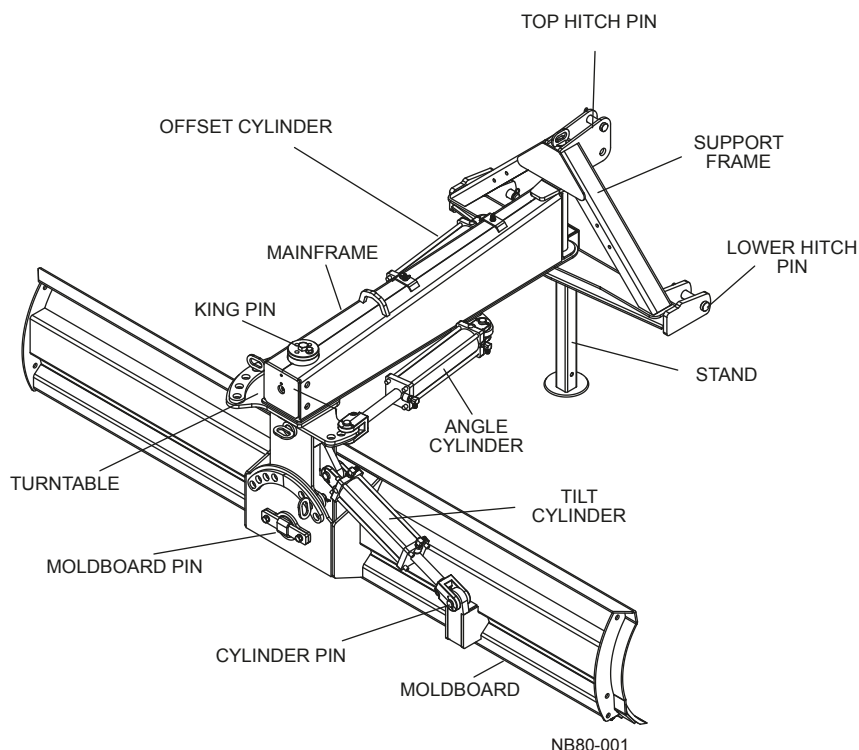
G) Operation via fast connections, the tractor hydraulic system is used to operate the equipment (hydraulic configuration).

H) The hydraulic version can be ordered with a flow switch valve, which allows to operate 2 different cylinders with one valve box in the tractor.

I) Optional skid support kit is available, which increases the life of the blade and prevents damage to the work surface for cleaning pens and roads.

J) Optional lateral plates kit is available allows the movement of materials more easily.

REAR BLADE COMPONENTS



SAFETY RULES

SAFETY RULES

This is the safety-alert symbol which means ATTENTION! BE ALERT! YOUR SAFETY IS INVOLVED! This safety alert symbol indicates important safety messages in this manual. When you see this symbol, carefully read the message below and be alert to the possibility of personal injury or death.



DISTINGUISH SAFETY MESSAGES

Whenever you see the words and symbols shown ahead and used in this manual, you **MUST** consider the instructions as they are related to personal safety.

DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in DEATH or SERIOUS INJURY.

WARNING: Indicates a potentially dangerous situation, if not avoided, could result in DEATH or SERIOUS INJURY.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, could result in MINOR INJURIES.



DANGER



WARNING



CAUTION

OBSERVE THE SAFETY MESSAGES

Before operating this equipment carefully read all safety messages in this manual and on your machine safety signs.

It is YOUR responsibility to read and comprehend the safety section on this manual. Remember that YOU are key in following safety messages. Good safety practices not only protect you, but those who are nearby. Study all aspects of this manual and make them part of your safety program. Note that this section of security is only created for this type of equipment. Put into practice other procedures and above all usual precautions, REMEMBER THAT SAFETY IS YOUR RESPONSIBILITY. YOU CAN AVOID SERIOUS INJURY OR DEATH. This security section is meant to highlight some of the basic safety situations that may occur during normal operation and maintenance of this equipment, suggesting possible ways to handle these situations. This section does NOT replace the safety procedures that appear in other sections of this manual.

NOTE: This handbook covers general security practices for this equipment.



SAFETY RULES

PASSENGERS ARE NOT ALLOWED IN THE MACHINE

Only allow the operator on the machine. Riders on machine are subject to injury such as being struck by foreign objects and being thrown off of the machine. Riders also obstruct the operators view resulting in the machine being operated in an unsafe manner.



HANDLE FUEL WITH SECURITY, AVOID FIRE

Handle fuel with care, it is flammable. Do not refuel while smoking or when close to flames or sparks. Always shut off engine before refueling. Fill the fuel tank outdoors.

Prevent fires by keeping the machine free of trash, grease and dirt. Always clean up spilled fuel.



BE PREPARED IN CASE OF EMERGENCY

Due to the flammable nature of many substances, there should be a fire extinguisher within reach of the operator.

Have on hand a first-aid kit for minor cuts and scratches. Keep the local emergency numbers near you.



WEAR APPROPRIATE CLOTHING

Avoid wearing loose fitting clothing, use proper safety equipment according to the type of work. The safe operation of the equipment requires full attention of the operator. Do not use headphones to listen to the radio when traveling on roads.



SAFETY RULES

DRIVING ON PUBLIC ROADS

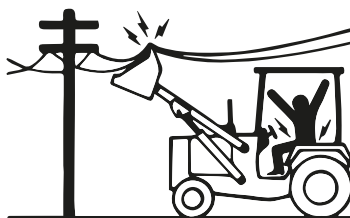
Serious damage or even death could result if the tractor or the rear blade comes in contact with power lines.

Do not leave the driver's seat if any part of the tractor or rear blade has contact with power lines.

Slow down when making a turn. Avoid sudden turns.

When transporting the rear blade, make sure the blade remains at a minimum height of 40 cm. from the ground and install all adjusting pins.

Be careful with traffic while traveling on public roads.



AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable sprayings can be generated by overheating near pressurized fluid lines, resulting in severe burns to you or those around you.

Do not heat by welding, torch or torch near pressurized fluid lines or other flammable materials. Pressure lines can be accidentally cut when entering area beyond the flame.

SAFE ACCESSORIES STORAGE

The accessories that are not stored properly, can fall and cause injury or death.

Store any accessories or equipment safely, avoiding falling objects. Keep out unauthorized minors and adults in the area.



PROTECTION AGAINST NOISE

Prolonged exposure to noise can affect hearing.

As a precaution, protect your hearing with ear muffs or plugs.



SAFETY RULES

PRACTICE SAFE MAINTENANCE SAFETY RULES

Understand service procedure before doing work.
Keep área clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Stop the engine, and remove the key. Allow machine to cool down.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or dirt.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

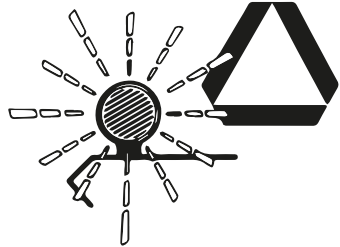
USE SAFETY LIGHTS AND ACCESSORIES

Slow vehicles, tractors, dragged or suspended equipment may present a risk to be transported or towed by road and be hard to see, especially at night. Avoid injury or death which may result from a collision with other vehicles.

We recommend using lights and safety accessories when driving on public roads.

To improve visibility, use all the lights that the tractor has. Installing additional rotating warning lights is recommended. Verify that the pointing devices are in good condition.

Immediately replace safety accessories, and signaling devices if lost or damaged.



SAFETY RULES

REMOVE PAINT BEFORE WELDING OR HEATING

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering or using a torch. Do all work outside or in a well-ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating.

- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.



CHECK HOSES FOR DAMAGE

The hydraulic hose fail due to physical damage, kinks, time and weather exposure. Periodically check the hoses. Replace damaged hoses.

Prevent high pressure fluids:

Pressurized fluids can escape and penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source



SAFETY RULES

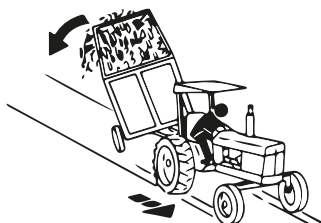
TOW LOADS SAFETY

Stopping distance increases with speed and load hauled and on slopes. Loads with or without brakes, too heavy for the tractor or towed too fast can cause loss of control. Consider the total weight of the equipment and its load.

Observe these recommended maximum road speeds, or local speed limits which may be lower.

- If towed equipment does not have brakes, do not travel more than 32 km/h (20 mph) and do not tow loads more than 1.5 times the tractor weight.
- If towed equipment has brakes, do not travel more than 40 km/h (25 mph) and do not tow loads more than 4.5 times the tractor weight.

Ensure the load does not exceed the recommended weight ratio. Add ballast to recommended maximum for tractor, lighten the load, or get a heavier towing unit. The tractor must be heavy and powerful enough with adequate braking power for the towed load. Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.



SAFETY IN THE REAR BLADE

ATTENTION: Improper use of the rear blade can cause serious injury.

1. Before transporting check all pins and screws are placed correctly.
2. Drive slowly through entrances and gates.
3. Reduce speed when turning tractor.
4. Avoid working on holes, trenches or other uneven terrain.
5. Always park the tractor on flat and uniform land.

SAFETY RULES

Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon awareness, concern, judgement, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

It has been said "The best safety device is an informed careful operator." We ask you to be that kind of operator.

TRAINING

Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals are available from your dealer). Failure to follow instructions or safety rules can result in serious injury or death.

If you do not understand any part of this manual and need assistance, see your dealer.

Know your controls and how to stop engine and attachment quickly in an emergency.

Operators must be instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.

Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks, wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.

Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury or death will result, **CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES, DO NOT DELAY.**

Never allow children or untrained persons to operate equipment.

PREPARATION

Make sure all hardware is properly installed. Always tighten according to the torque specification table unless otherwise indicated in this manual.

Do not connect a low pressure hydraulic hose in a high pressure system – this could burst the hose. Do not use a high pressure hose instead of a low pressure hose – this may cause damage on the valve.

Always use tight clothing to prevent entanglement in moving parts. Use antiskid safety shoes and protective equipment for eyes, hair, hands, ears and head.

(Safety rules continue on next page)

SAFETY RULES

Make sure that the implement is properly adjusted and in good working condition.

The tractor must be equipped with ROPS cabin and seat belt. Keep the safety belt properly secured. Tractor rollover can result in death from being run over or crushed. Keep folding ROPS systems in "locked" position at all times.

Make sure all safety decals are installed, replace any damaged or unreadable.

To transport the equipment be sure to have at least 20% of the total weight of the tractor and equipment in the front shaft of the tractor wheels. Without this weight, the tractor may roll over causing personal injury or death. The weight can be obtained with a front loader, front wheel counterweights, ballast tires, tractor or front counterweights. Weigh the tractor and equipment, do not estimate it.

Make sure the circuit lever control valve does not hit the tractor cab, etc. throughout the operating range of the tractor hitch box. Fold the lever, if necessary, to clear the cockpit, but should still be convenient to operate from the tractor seat.

OPERATION

Do not allow viewers in the area when operating, removing, mounting or repairing the equipment. Do not operate equipment under the influence of alcohol or drugs.

Operate only in daylight or under good artificial light.

Keep hands, feet, hair and clothing away from equipment while the engine is running. Stay away from all moving parts.

Always follow all state and local lighting requirements.

Never allow riders on the tractor or implement.

The tractor must be equipped with ROPS or cab and seat belt. Keep the safety belt properly secured.

Rollover tractor can result in death from being run over or crushed. Keep folding ROPS systems in a position to "lock" at all times.

Always sit in the driver's seat when operating the controls or start the engine.

Securely fasten your seatbelt, put the transmission in neutral, set parking brake, and ensure that all other controls are disengaged before starting the drive motor.

Look down and back and make sure the area is clear before reversing machine.

Do not operate on steep slopes.

Do not stop, start or change direction suddenly on slopes.

Be very careful and slow down on slopes and difficult terrain.

Be aware of the dangers hidden in the ground during the operation.

Leave the tractor and the implement immediately when hitting an obstacle.

Stop engine, remove key, inspect and repair any damage before resuming operation.

Before making manual adjustments for tilt or angle positions:

Park tractor on level ground, apply the parking brake, turn off the tractor and remove the key.

Make manual changes slowly and carefully to avoid dangerous movements of the mechanisms.

Never stand in positions where you could be stuck for setting changes or if the 3-point hitch suddenly lowers.

(Safety rules continue on next page)

SAFETY RULES

Always secure the pins with safety pins to prevent the pins from falling out of position. Failure to do so can lead to accidents and / or damage to the rear blade.

Before dismounting the tractor or performing any service or maintenance, follow these steps: Turn off the power to equipment, lower the linkage frame and all components raised to the ground, operate the levers of the valve to release any hydraulic pressure, the brake parking, stop the engine, remove the key, and unfasten the seat belt.

Before working under the rear blade read the instruction manual, secure lock, and check stability. Lock to prevent the equipment from falling due to hydraulic leak down hydraulic system failure, or failure of a mechanical component.

MAINTENANCE

Before dismounting the tractor or performing any service or maintenance, follow these steps: Turn off the power to equipment, lower the 3-point hitch and all components raised to the ground.

Operate the levers of the valve to release any hydraulic pressure, the parking brake, stop the engine, remove the key, and unfasten the seat belt. Before performing any service or maintenance, floor fixing, stop the engine, the parking brake and remove the key.

Before working under the rear blade read the instruction manual, safe block, and check stability. Lock to prevent the equipment from falling due to hydraulic leak down hydraulic system failure, or failure of a mechanical component.

Always use tight clothing to prevent entanglement in moving parts. Use antiskid safety shoes and protective equipment for eyes, hair, hands, ears and head.

Do not modify, alter or permit others to modify or alter the equipment or any of its components in any way.

Make sure the attachment is secure, tight and in good working condition.

Never perform service or maintenance with the engine running.

Keep all people away from the operator's control area during adjustment, servicing or maintenance.

Tighten all bolts, nuts and screws with the torque specification table. Check that all cotter pins are properly installed to ensure that the equipment is in a safe condition before putting the tractor into operation.

Make sure all safety decals are installed.

Replace if damaged. (See Safety and instruction stickers section for location).

Do not disconnect the hydraulic lines until the machine is properly locked or placed in the lowest position and the system pressure is released by the valve operating levers.

STORING

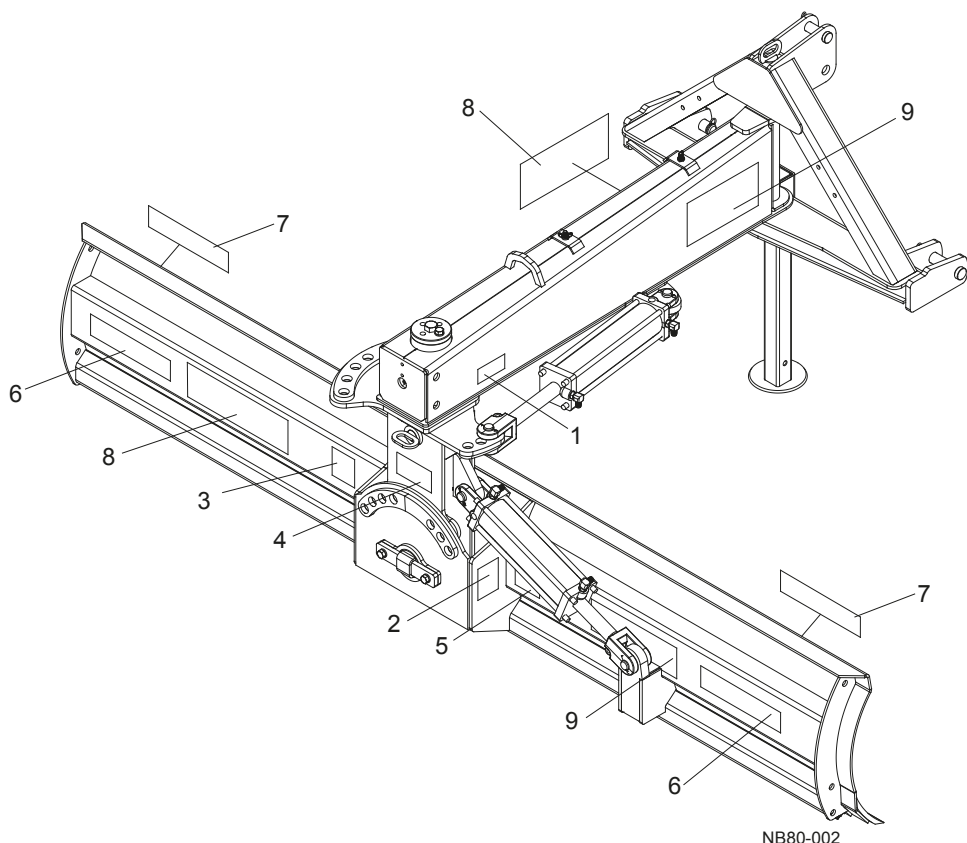
Secure parking stall of equipment (s) in the rest position before disconnecting.

Keep children and onlookers away from the storage area.



SAFETY DECALS

CAUTION! BE AWARE! YOUR SAFETY IS INVOLVED!
Replace immediately if damage!



NB80-002

1. - Serial number plate (1).

In this plate is located the model and serial number of the equipment. It must be maintained in good condition and never remove from the equipment.

	TECNOMEC AGRICOLA, S.A. DE C.V. Carr. a Paso Blanco Km. 2 #400 Col. Vista Hermosa C.R. 20900 Jesús Ma., Aguascalientes, MEX. Tel. (52) (449) 922 47 66 / 92-BISON Fax (52) (449) 922 47 67
SERIAL No.:	<input type="text"/>
MODEL:	<input type="text"/>

IMPORTANT:

This implement is equipped with several safety decals. These were designed to help the safe operation of our implement.

1. Read and locate the position of the decal.
2. Keep all safety decals clean and legible.
3. Replace any damaged or illegible decals.
4. When making equipment repairs and replace of any component, make sure to place the safety decal that this manual indicates. These are available from your dealer.



SAFETY DECALS

CAUTION! BE AWARE! YOUR SAFETY IS INVOLVED!
Replace immediately if damage!



2.- TA4310-7040-06

This decal mentions the instructions must be followed to avoid serious injury by high pressure fluid.



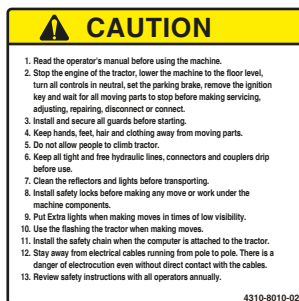
3.- TA4310-7020-06

This decal mentions the instructions must be followed to avoid and prevent serious injuries.



4.- TA4310-8010-02

This decal mentions the instructions must be followed for operating the rear blades.



5.- TA4310-7030-06

This decal mentions the risk of serious injury or death as a result of a falling blade.



6 and 7.- Reflective decals

These decals are safety indicators that are used as reflective light when transporting the rear blades in streets and unpaved roads.



8.- TA4310-5013-0, BISON DECAL

This decal represents the company logo.



9.- Model decal.

This decal represents the rear blade model.

NB80-210

BE CAREFUL!

Use a clean, damp cloth to clean the safety labels.

Avoid spraying too close on decals when pressurized water is used; High pressure water can enter through very small scratches or under the edges of the decals making peel or peel.

Safety labels parts can be ordered from your dealer.

OPERATION

Safety is a primary concern in the design and manufacturing of our products.

Unfortunately, our efforts to provide safe equipment can be eliminated by the negligent act of an operator.

Besides the design, configuration of equipment, hazard control and accident prevention depends on knowledge, interest, trial, and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

It has been said "The best safety device is an informed and careful operator." We ask you to be that kind of operator.

NOTICE

Never allow children or untrained persons to operate the equipment.

Do not allow viewers in the area when operating, removing, mounting or repairing the equipment.

Before working under the rear blade, read the manual, be sure to lock and check the stability of the team. A secure lock prevents the machine from falling due to a leak or hydraulic failure, or failure of a mechanical component.

Never allow riders on the tractor or implement.

Keep everyone out of the control area operator during the adjustment, servicing or maintenance.

NOTICE

Ensure that all personnel operating and service know that if the hydraulic fluid is injected into the skin must be surgically removed as soon as possible by a doctor familiar with this type of lifting injury or gangrene, this can cause serious injury or death. Call your doctor immediately if the fluid enters the skin or eyes. DO NOT DELAY.

To transport the equipment be sure to have at least 20% of the total weight of the tractor and equipment in the front shaft of the tractor wheels. Without this weight, the tractor may roll over causing personal injury or death. The weight can be obtained with a front loader, front wheel counterweights, ballast tires, tractor or front counterweights. Weigh the tractor and equipment, do not estimate it.

CAUTION

Keep hands and body away from the pipes and hydraulic hoses. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety glasses.

The pressurized hydraulic fluid can easily penetrate the skin and cause serious injury or death.

Always use relatively narrow and tucked clothing to avoid entanglement in moving parts. Use anti-skid safety shoes and protective equipment for eyes, hair, hands, ears and head.

OPERATION

MOUNTING THE REAR BLADE ON THE TRACTOR IMPORTANT

For rear blade NB80 should be mounted in a 2WD tractor with a maximum power of 80 HP (60 kW). Tractor 4WD, the maximum power is 70HP (52 kW). And for leveling NB120 should be mounted in a 2WD tractor with a maximum output 120 HP (90kW). 4WD tractor, the maximum power is 110 HP (82 kW).

This rear blade has a 3-point hitch Category II. It can be attached to a tractor ASAE Category II with or without quick coupler. Place the tractor hydraulic lift "position control" (not floating) for attaching and detaching the mounted rear blade. "Control Project" or "control position" can be used during operation.

Support the tractor until the ends of the lift arms can be attached to the lifting points on the implement. Secure the lift arms to the mast.

Connect the center link at the top of the mast and adjust so that the rear blade will be level in the operating position.

CATEGORY II

1. Place the lift arms between the lower link brackets. Secure with lower locking bolts (17) and insert insurance "R" 1/8 (33).

2. Connect the bar of the tractor's third point hitch in the hole top box hitch coupling (4) using the top category II coupling pin (16). Secure with "R" 1/8 (33) pin.

3. Level the main frame by adjusting the length of the bar of the third point of the tractor.

4. Lock the tensor of the lower drawbars of tractor to prevent swinging of the rear blade.

CATEGORY II QUICK HITCH

1. Secure the lower locking bolts (17) using a hub lower engagement pin * 1 7/16 "OD and insert insurance" R "1/8 (33).

2. Place the pin in top of category II coupling (16) and upper bushing coupling pin * 1 1/4 "OD Category 2 lug engaging the top and secure with safe "R" 1/8 (33).

3. Back up tractor with the rapid 3-point hitch for coupling engagement with picture of the rear blade (4) ensure that the pins are aligned and centered with the lower latch ears.

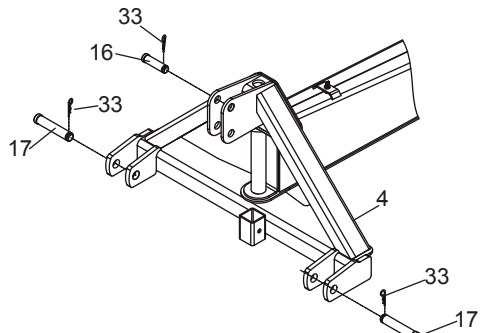
4. Lift the lower drawbars of tractor.

5. Level the main frame by adjusting the length of the bar of the third point of the tractor.

6. Lock tensors of the lower tractor drawbars to prevent swinging of the rear blade.

NOTE: The upper and lower bushing pin hitch are not included with the of the rear blade.

NOTE: Some tractors may be necessary to remove the drawbar. Ensure at least six inches away from the rear blade to the tractor tires throughout the operating range of the coupling table.



NB80-003

OPERATION

CAUTION

Before making manual adjustments for tilt, angle, or lateral displacement:

Park tractors on level ground, set the parking brake, place at ground level, turn off the tractor and remove the key.

Make manual changes slowly and carefully to avoid dangerous movement of the mechanisms. Never stand in positions where they could get stuck in the settings or if the hitch box drops suddenly.

Always secure the adjustment bolts to secure the "R" pins to avoid that they come out of their position. Failure to do so may result in loss of the adjustment bolts, accidents and / or damage to the of the rear blade.

ANGLE ADJUSTMENT

Mechanical Adjustment.

Insert the bolt of the turntable (12) using various combinations of holes between the mainframe and the holes in the turntable. Each hole gives us an increase of 5 ° up to 45 ° on each side. Secure the pin of the turntable (12) agricultural insurance (33).

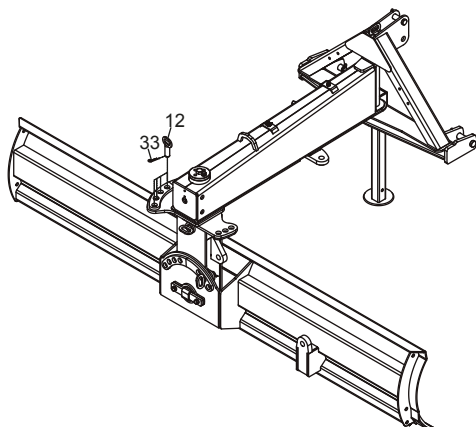
Hydraulic Adjustment.

Using the hydraulic angle cylinder we can position the bucket of the rear blade at angles of 0° to 45° left or right with hydraulic remote control from the operator's seat of the tractor.

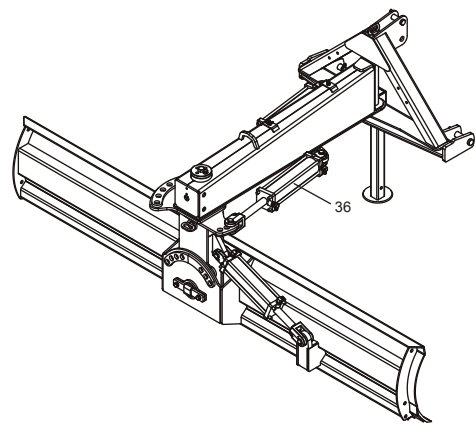
1. Lift the rear blade a few inches off the ground by operating the tractor lift control.
2. Press the cylinder valve connected to the angle (36) control.
3. For tractors with two-circuit selector valves, select the position where the connected cylinder angle is, and operate the control valve connected to the selector valve tractor.

NOTA: No haga funcionar la válvula selectora bajo carga.

NOTA: No utilice el cilindro de ángulo al mismo tiempo que esta instalado el perno de ángulo, ya que hacerlo puede dañar el cilindro y la niveladora.



NB80-004



NB80-005

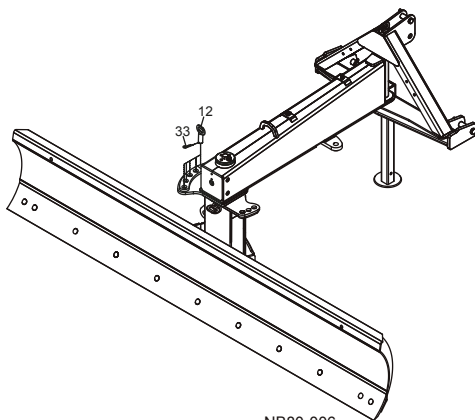
OPERATION

Moldboard reversion

The rear blade is reversible without being removed from the tractor.

Mechanical adjustment.

1. Remove the pin of the angle and tilt (12) and "R" insurance (33).
2. Turn the bucket at 180 degrees counterclockwise (viewed from above) direction.
3. Insert the angle and tilt pin (12), using several combinations of holes between the bucket and the holes of the turntable turn angle positions to achieve up to 45 degrees on either side. Securing bolt and tilt angle (12) with "R" lock (33).



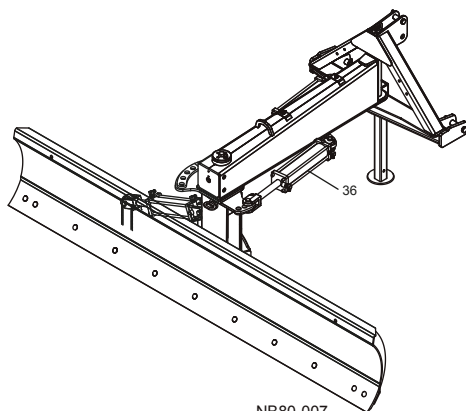
NB80-006

Angle cylinder Adjustment.

1. Remove the two "R" pins and the two angle cylinder pins (36) and then remove the cylinder (36).
2. Raise the ground using the tractor hitch box.
3. Turn the moldboard at 180 degrees counter-clockwise (viewed from above) direction.
4. Replace the angle cylinder (36), the two angle cylinder pins, and the two "R" locks.

NOTE: The rear blade can be adjusted hydraulically to any angle from 0° to 45° degrees to the right or left.

NOTE: Do not use the angle cylinder (36) while the angle and tilt pin is installed (12), since this may damage the cylinder (36) and the rear blade.



NB80-007

OPERATION

TILT ADJUSTMENT

Mechanical adjustment.

Insert angle and tilt pin (12) using several combinations of holes between the moldboard holes in the turntable. Each hole gives us an increase of 7° up to 21°. Secure the angle and tilt pin (12) with "R" lock (33).

Adjust hydraulic tilt cylinder.

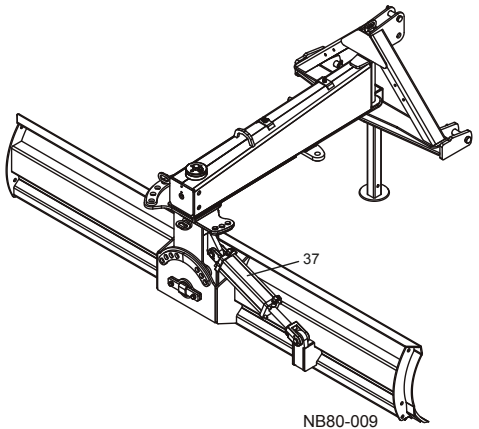
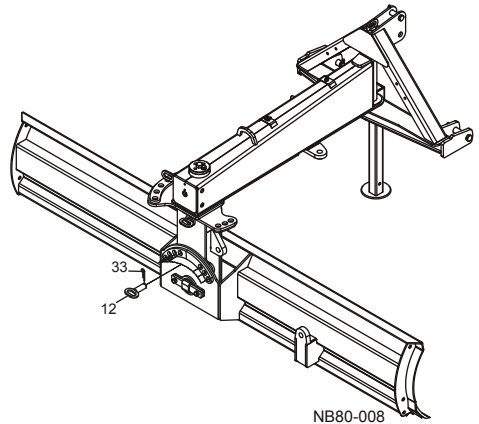
Using the tilt cylinder, we can position the rear blade moldboard at angles from 0° to 21° up or down with hydraulic remote control from the operator's seat.

- 1.- Lift the rear blade to about 50 cm from the ground, by operating the tractor lift control.
- 2.- Operate the control valve connected to the tilt cylinder (37).
- 3.- For tractors with two-circuit selector valves, select the position where the tilt cylinder is connected and operate the control valve connected to the selector valve tractor.

NOTE: In some cases it may not be possible to completely rotate and tilt the moldboard, even having the rear blade at its maximum height above the ground. In this case, use a lower angle.

NOTE: Your rear blade may have contact with other components, when the moldboard is rotated while it is tilted. In these cases operate the rear blade slowly.

NOTE: Do not use the tilt cylinder (37) while the angle and tilt pin (12) are installed, doing so can damage the tilt cylinder (37) and the rear blade.



OPERATION

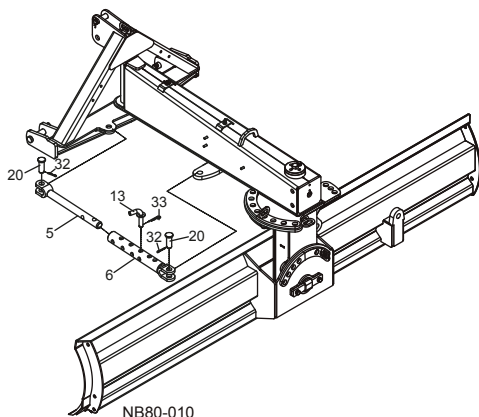
Offset Adjustment

Mechanical Adjustment.

This adjustment is made by a mechanical tensioner with 5 positions, in which we obtain a distance of 0-76 cm. to the right or left considering the progress of the tractor.

Offset displacement of the rear blade:

1. Park tractor on even ground.
2. Apply the parking brake and raise the rear blade 5 cm. above ground.
3. Level the mainframe and stop the engine.
4. Remove "R" lock (33) and tensor pin (13). Turn the main frame to the desired position and replace pins.



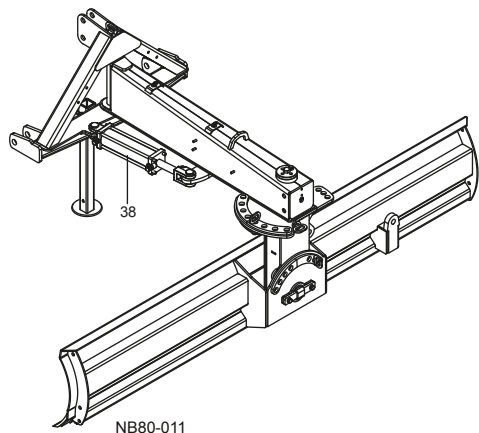
Offset hydraulic cylinder adjustment.

The offset cylinder (38) rotates the main frame to the right, left or to any intermediate position, resulting in a maximum displacement to the right or left of 76cm.

To move the rear blade:

1. Raise the rear blade 5 cm. above ground by operating the tractor lift control.
2. Operate the control valve connected to the offset cylinder.
3. For tractors with two-circuit selector valves, select the position where the connected cylinder is and operate the tractor control valve connected to the selector valve of the rear blade.

NOTE: Do not operate the selector valve under load.



OPERATION

OPERATION TIPS

NOTICE

__Look Down and backwards ensuring that the area is clear before reversing.

__Do not operate on steep slopes.

__Do not operate while the stand is in the working position.

__Do not stop, start or suddenly changing direction on slopes.

__Be Careful and reduce speed on slopes and difficult terrain.

__Be aware of the dangers hidden in the ground during the operation.

__Before operating read the instruction manual, secure lock, and check stability.

Secure locking prevents the equipment to fall because of a hydraulic leak, hydraulic system failure, or failure of a mechanical component.

FILLING

For filling trenches or ditches, reverse bulldozer turning counterclockwise and push back.

LEVELING

Place the rear blade to the desired position for offset, angle and tilt for leveling and terracing.

CAUTION

__Stop the tractor and equipment immediately after hitting an obstacle. Turn off the engine, remove the key, inspect, and repair any damage before resume operation.

PREVIOUS OPERATION CHECKLIST (OPERATOR RESPONSIBILITY)

__Check and follow all safety rules and safety decals on page 17.

__Check that the equipment is correctly and firmly attached to the tractor.

__Check that all safety decals are installed and in good condition. Replace if they are damaged.

__Check that all screws and bolts are tight and properly installed.

__Check that all lubrication points are properly greased.

__Make sure the blade of the rear blade is in good condition.

__Check that all connectors and hydraulic hoses are in good condition and not leaking, before starting the tractor. Make sure the hoses are not twisted, bent, frayed or stretched. Replace damaged hoses immediately.

OPERATION

Safety is a primary concern in the design and manufacture of our products. Regrettably, our efforts to provide safe equipment can be eliminated by the negligent operator.

In addition to design, configuration of equipment, hazard control and accident prevention depend upon knowledge, interest, judgment and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

It has been said "The best safety device is an informed and careful operator." We ask you to be this type of operator.

NOTICE

Make sure that all personnel operating is aware that if the hydraulic fluid is injected into the skin must be surgically removed as soon as possible by a doctor familiar with this type of lifting injury or gangrene, serious injury or death will result. Call your doctor immediately if the fluid enters the skin or eyes. Do not delay.

Before operation read the instruction manual, secure lock, and check stability. The secure locking prevents the equipment from falling due to a hydraulic leak, hydraulic system failure, or failure of a mechanical component.

Never perform service or maintenance with the engine running.

NOTICE

Before dismounting the rear blade to perform any service or maintenance, follow these steps: Turn off the power of this equipment, lower to ground the hitch box and all components, operate the levers of the valve to release any hydraulic pressure, the parking brake turn off the engine, remove the key, and loosen the seat belt.

Keep everyone away from the control area operator during adjustment, servicing or maintenance.

CAUTION

Always use relatively narrow and tight clothes to prevent entanglement in moving parts. Use anti-skid safety shoes and protective equipment for eyes, hair, hands, ears and head.

Keep hands and body away from the pipes and hydraulic hoses. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety glasses. The pressurized hydraulic fluid can easily penetrate the skin and cause serious injury or death.

OWNERS SERVICE

EQUIPMENT BLADE

To reverse the cutting edge.

1. Remove the 5/8" plow screws.
2. Remove the blade of the moldboard and reinstall the blade, with the sharp side down.
3. Replace the blade if both edges are worn.

LUBRICATION

Weekly.

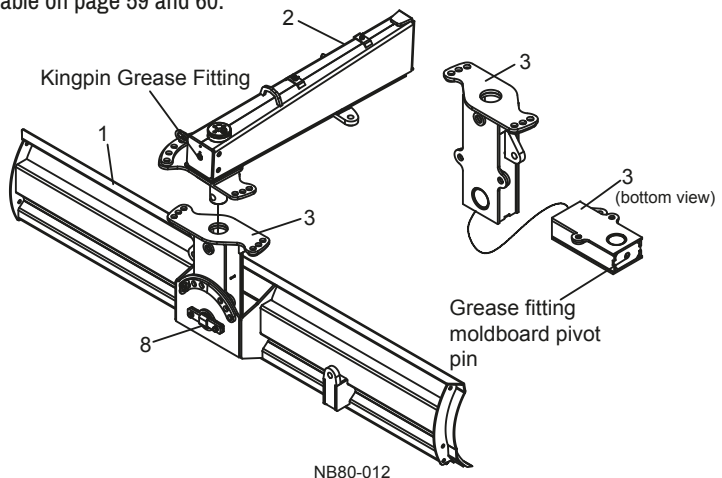
1. Grease the kingpin through the fitting.
2. Lubricate between the mainframe (2) and the turntable (3).
3. Lubricate the moldboard pivot pin (8) through the grease fitting located on the bottom of the turntable (3).

Screws.

1. Periodically check the screws to make sure they are tight.
2. Replace the screws as needed.

NOTE: spare screws should have the same resistance marks on their heads.

See Torque Specification Table on page 59 and 60.



OWNERS SERVICE

NOTICE

Before removal of the rear blade or performing any service or maintenance, follow these steps: Turn off the power to equipment, lower the hitch box and all components raised to the ground, operate the levers of the valve to release any hydraulic pressure, the parking brake, turn off the engine, remove the key, and unfasten the seat belt.

Before operation read the instruction manual, secure lock, and check stability. Safely lock to prevent the equipment from falling due to hydraulic leak down hydraulic system failure, or failure of a mechanical component. Keep all people away from the control area operator during adjustment, servicing or maintenance.

Make sure that all operating personnel is aware that if the hydraulic fluid is injected into the skin must be surgically removed as soon as possible by a doctor familiar with this type of lifting injury or gangrene, serious injury or death will result. Call your doctor immediately if the fluid enters the skin or eyes. Do not delay.

CAUTION

Keep hands and body away from the pipes and hydraulic hoses. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety glasses. The pressurized hydraulic fluid can easily penetrate the skin and cause serious injury or death.

Always use relatively narrow and tucked in clothing to avoid entanglement in moving parts. Use anti-skid safety shoes and protective equipment for eyes, hair, hands, ears and head.

Tighten all pins, nuts and screws with the specifications table touch. Check that all safety pins and cotter pins are properly installed to ensure that the equipment is in a safe state before putting the unit into service.

Distributor setup instructions.

The assembly of this equipment is the responsibility Bison distributor it must be delivered to the owner completely assembled, lubricated and adjusted for normal operating conditions. Assembly will be easier if the components are aligned and assembled loosely before tightening the screws. The recommended torque values for the bolts are on pages 59 and 60.

ASSEMBLY

MAIN ASSEMBLY

These instructions illustrate the sequence of assembling the parts of the rear blade.

We suggest you follow this sequence carefully. The rear blade assembly must be made with at least two people and the right equipment to facilitate assembly.

The following tools are required for assembly the rear blade:

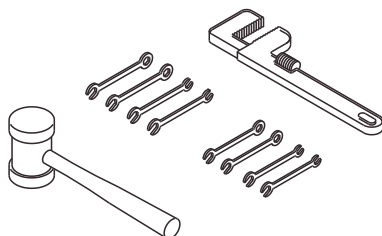
Rubber hammer.

Bronze hammer.

Wooden blocks.

Flathead screwdriver 5/16" x 8"

Ratchet 1/2"



2 Adjustable wrenches 12"

1 Adjustable wrench 6"

or

2 Combination wrench 1 1/8"

2 Combination wrench 1"

2 Combination wrench 15/16"

2 Combination wrench 3/4"

2 Combination wrench 9/16"

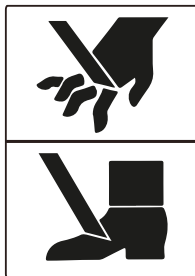
1 Combination wrench or since 7/16".

In some cases, it is necessary to use a steel mallet when you install the pins. In these cases, it is suggested that a piece of wood is used to soften the impact between the pin and a hammer to avoid damaging the bolt.

NOTICE

BLADE FALLING DANGER

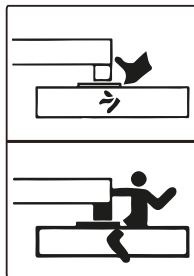
It could cause serious injury or even death. Keep hands and feet away from the blade while it is activated.



NOTICE

CONTUSIONS DANGER

Beware pieced together by pins as they tend to turn.



ASSEMBLY

Remove parts from packaging.

NOTE: The transport packaging can be used to assist in mounting the rear blade.

1. Remove the top and sides of the package.
2. Remove the box parts, hydraulic cylinder (s) and/or mechanical tension of the base.

JOIN THE MOLDBOARD TO THE TURNTABLE AND KINGPIN

NOTE: Make sure the moldboard is pointing downwards to facilitate assembly of the turntable.

NOTE: The turntable assembly (3) to the moldboard (1) should be done by two people.

NOTE: Prior to installation, check separately the pivot pin into the moldboard (1) and the turntable (3).

A. Insert the turntable (3) into the slot moldboard (1). The assembly should be adjusted. If you have problems installing the turntable (3) the moldboard (1) remove the paint from the surface to interfere between the turntable (3) and the moldboard (1), then the two assemblers (one on each side of the turntable) should move the turntable (3) up and down as you enter the house (3) into the slot moldboard (1). The turntable (3) must move freely after installation.

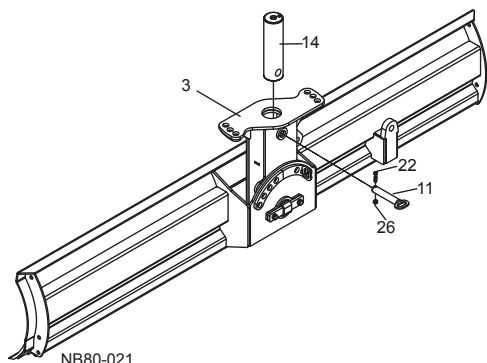
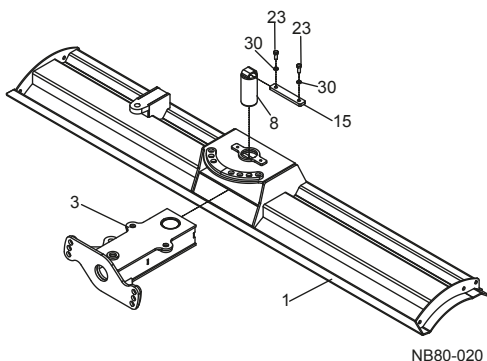
Uniting the turntable (3) the turntable (1) by inserting the pivot pin moldboard (8). Moving the retainer pivot pin (15) to the end of the moldboard (8). I assured with two hex screws (23) and lock washers (30). The turntable (3) should move freely after installation.

NOTE: Remove the paint moldboard pivot pin (8) and inside the holes moldboard (1) where the moldboard pivot pin (8) passes. Apply grease to the entire contact surface to facilitate mounting.

B. Ensure the kingpin (14) to the turntable (3) using the catch of the kingpin (11). Secure with hexagonal screw (22) and nut (26).

NOTE: Remove paint checkpoint kingpin (11) and the inside of the holes in the turntable (3) where the kingpin (14) and the retainer kingpin (11) therethrough. Apply grease to all contact surfaces to facilitate assembly.

1. Moldboard
3. Turntable
8. Moldboard pivot pin
11. Kingpin holder
14. Kingpin
15. Moldboard pivot pin holder
22. Screw hex. 3/8 X 1 3/4 - 16 UNC G5
23. Screw hex. 1/2 X 1 1/4 - 13 UNC G5
26. Nut 3/8 - 16 UNC INC NYLON
30. Lock washer 1/2"



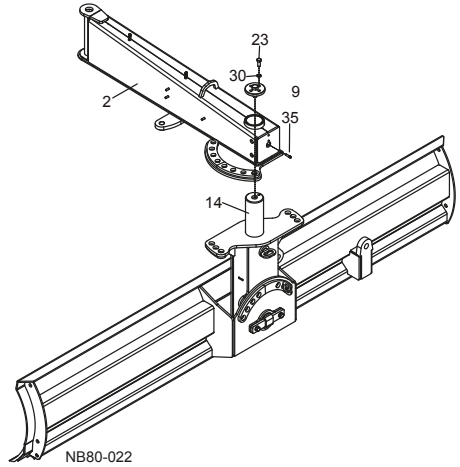
ASSEMBLY

Join the turntable to the Moldboard

C. Allow the end of the mainframe (2) slides through the kingpin (14). Secure the cover completely by pressing kingpin (9), then loosen 1/4 turn until one of the holes in the top of the kingpin (9) is aligned with the holes of the kingpin (14). Secure by tightening hexagonal screw (23) and lock washers (30).

NOTE: Grease the kingpin (14) to facilitate assembly.

- 2. Mainframe
- 3. Turntable
- 9. Cover Kingpin
- 14. Kingpin
- 23. Screw hex. 1/2 X 1 1/4 - 13 UNC G5
- 30. lock washer, 1/2

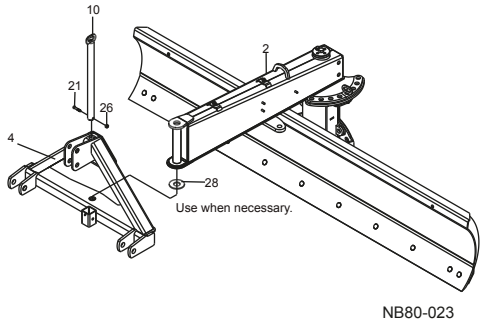


Hitch frame installation

D. Some rear blades may require placing flat washers (28) in the lower lug of the hitch frame (2). Use only when necessary to ensure a perfect fit between the hitch frame (4) and the mainframe (2). Assemble the box coupling (4) on the plane (2). Use the kingpin bolt (10) and secure with a hexagonal screw (21) and nut (26). Note 10 has the flat washer (28) is optional. Use only one or none, depending on the condition of the assembly, in order to ensure a perfect fit.

- 2. Mainframe
- 4. Hitch frame
- 10. Bolt kingpin
- 21. 3/8 X 21 hexagonal screw 2-16 UNC GMAQ
- 26. Nut 3/8 - 16 UNC INC NYLON
- 28. Flat Washer 1 1/2

NOTE: Lubricate the bolt kingpin (9) to facilitate assembly.

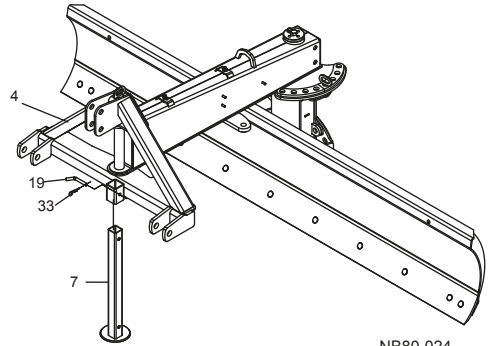


ASSEMBLY

Stand installation

A. Attach the stand (7) engaging the frame (4) and insert the stand pin (19) through the upper hole of the stand (7). Use "R" lock (33) to secure the stand (7) in the working position.

- 4. Frame Box 4
- 7. Stand
- 19. Stand pin
- 33. "R" lock, 1/8



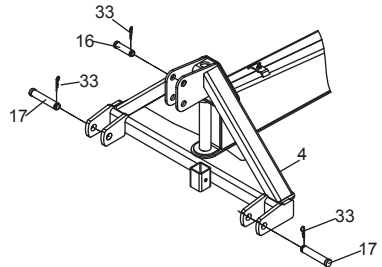
NB80-024

Installing Frame Hitch Bolts

F. Insert the two lower locking pins (17) through the coupling holes of the frame (4). Secure with "R" lock insurance (33).

G. Insert the upper locking pin (16) in the upper hole of the coupling frame (4) and secure with "R" lock insurance (33).

- 4. Hitch frame
- 16. Upper coupling pin
- 17. Bottom latch pin
- 33. "R" lock



NB80-025

ASSEMBLY

Angle Pin Installation

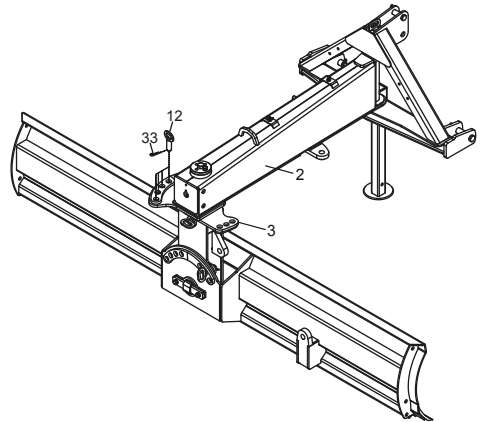
1. Insert the angle and tilt pin (12) using various combinations of holes between the mainframe (2) and turntable holes (3). Secure the angle and tilt pin (12) with "R" lock (33).

2. Mainframe

3. Turntable

12. Angle and tilt pin

36. Cylinder Angle



NB80-026

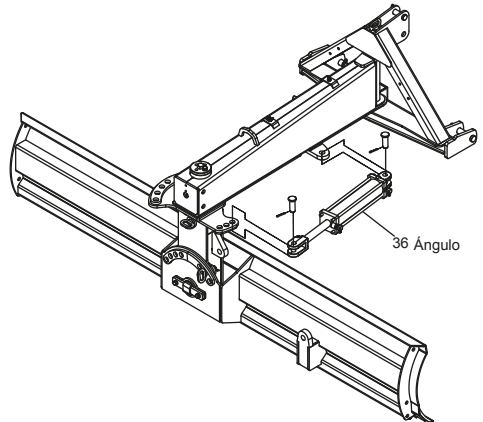
Attach the hydraulic angle kit to the rear blade (KHCN102)

1. Assemble the angle cylinder (36) to the turntable (3) and cotter pin using the angle cylinder (36), additionally join the other end of the angle cylinder (36) on the mainframe (2).

2. Mainframe

3. Turntable

36. Angle Cylinder



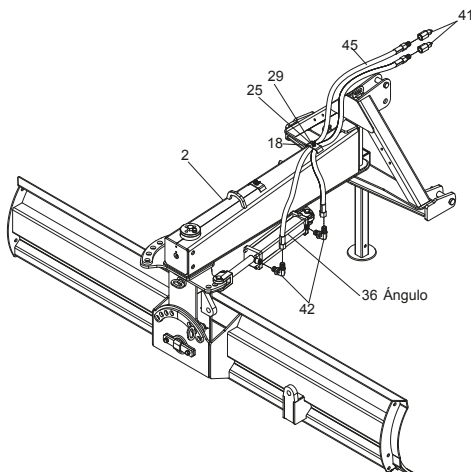
NB80-027

ASSEMBLY

Angle cylinder hose kit assembly (KHCN102)

1. Install both elbows (42) to the angle cylinder (36).
2. Install the two hoses (45) on the elbows (42) angle cylinder (36).
3. Secure hoses (45) to the top of the mainframe (2) by hose clamp (18), nut (25) and lock washer (29).
4. Install the quick connectors (41) to hoses (45).

- 2. Mainframe
- 18. Hose Clamp
- 25. Hex, 3/8 - 16 UNC butterfly
- 3/8 lock washer 29. "
- 36. Angle Cylinder
- 41. Couplers
- 42. Elbows
- 45. Hoses



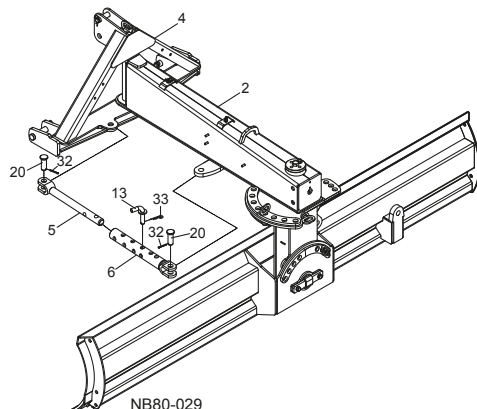
NB80-028

OFFSET MECHANICAL LINKAGE INSTALLATION

1. Install the mechanical linkage joining the male tensor (5) with the female tensor (6) using the tensor pin (13) and "R" lock (33).

2. Attach the lateral offset mechanical tensioner assembly scrolling both at the mainframe (2) using pins (20) and cotters (4)(32).

- 2. Mainframe
- 4. Frame hitch
- 5. Male tensor
- 6. Female tensor
- 13. Tensor pin
- 20. Pin
- 32. Cotter 3/16 X 1 1/2
- 33. "R" lock



NB80-029

ASSEMBLY

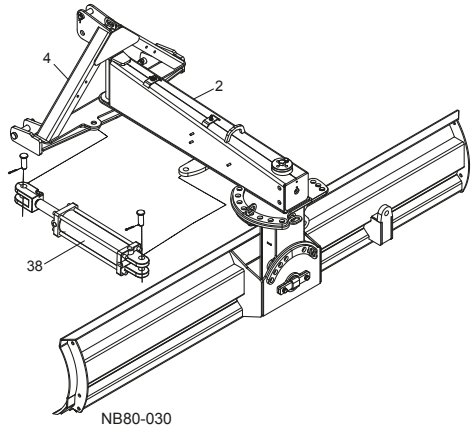
JOIN THE OFFSET HYDRAULIC CYLINDER TO THE REAR BLADE (KHCN106)

1. Assemble the offset cylinder (38) to the mainframe (2) using pin and cotter offset cylinder (38), likewise assembling the other cylinder end of the frame hooking (4).

2. Mainframe

4. Frame hitch

38. Offset Cylinder



Offset cylinder hose assembly (KHCN106)

1. Install both elbows (42) to the offset cylinder (38).
 2. Install the two hoses (45) on the elbows (42) in the offset cylinder (38).
 3. Secure hoses (45) to the top of the mainframe (2) by hose clamp (18), nut (25) and lock washer (29).
 4. Install the quick connectors (41) to tubing (45).

2. Mainframe

18. Hose Clamp

25. Hex, 3/8 - 16 UNC butterfly

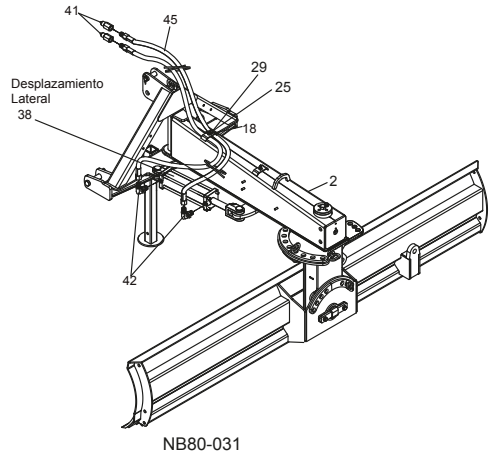
29. Lock washer 3/8"

38. Offset Cylinder

41. Couplers

42. Elbows

45. Hoses

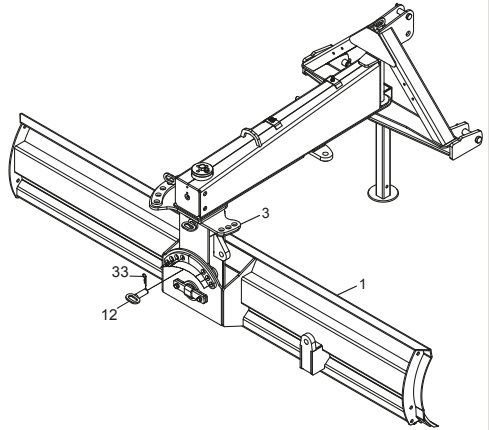


ASSEMBLY

Tilt pin installation

Insert the pin and tilt angle (12) using various combinations of holes between the moldboard (1) and the turntable holes (3). Secure the angle and tilt pin (12) with "R" lock (33).

- 1. Moldboard
- 3. Turntable
- 12. Tilt and angle pin
- 33. Lock "R"

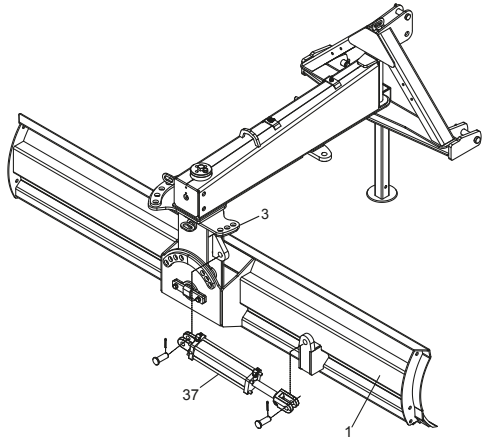


NB80-032

JOIN THE TILT CYLINDER KIT TO THE REAR BLADE (KHCN105)

1. Assemble the tilt cylinder (37) to the turntable (3) using pin and cotter of the tilt cylinder (37), likewise join the other end of the tilt cylinder (37) to the moldboard (1).

- 1. Moldboard
- 3. Turntable
- 33. Lock "R"
- 37. Tilt Cylinder



NB80-033

ASSEMBLY

Tilt cylinder kit hose assembly (KHCN105)

1. Install both elbows (42) to the tilt cylinder (37).
2. Install the two hoses (46) on the elbows (42) of the tilt cylinder (37).
3. Secure hoses (46) to the top of the mainframe (2) by hose clamp (18), nut (25) and lock washer (29).
4. Install the quick connectors (41) to tubing (46).

2. Plane

18. Hose holder

25. Hex, 3/8 - 16 UNC butterfly

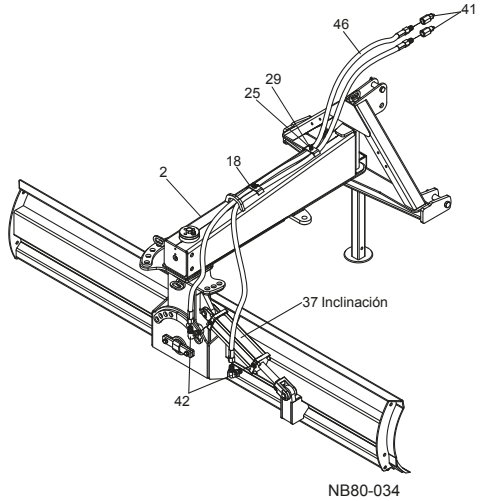
29. Lock washer 3/8"

37. Tilt Cylinder

41. Couplers

42. Elbows

46. Hoses



END PLATES ASSEMBLY C6200003 (OPTIONAL)

A. Hook the rear blade to the tractor.

B. Raise the rear blade 5 cm. above ground operating the elevation control valve.

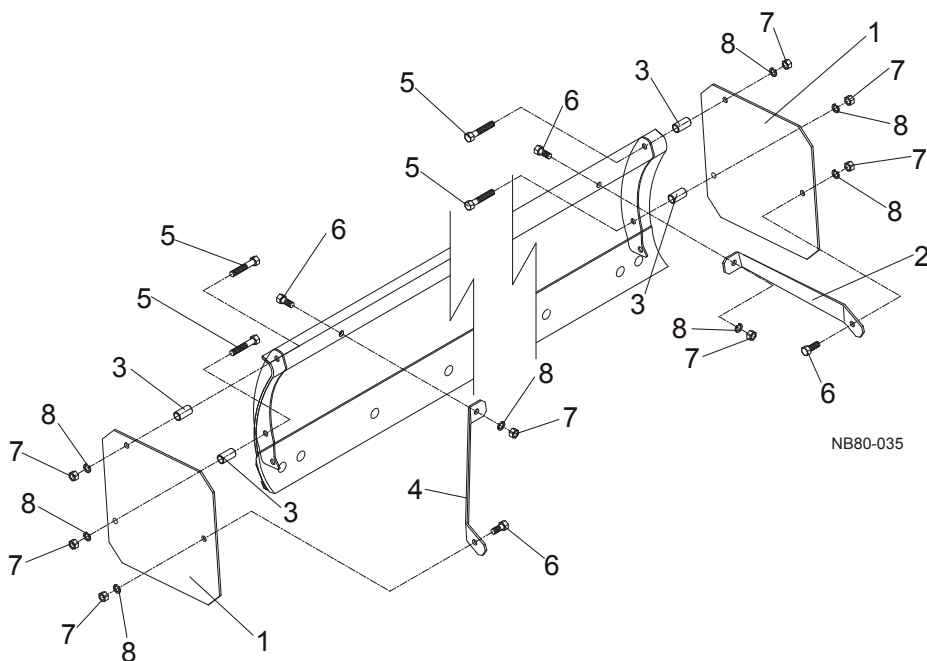
C. Support the rear blade on blocks correctly during the installation of the end plates to prevent accidents in case the rear blade drops due to loss of hydraulic pressure.

D. Assemble the end plates (1) to moldboard using screws (5), spacers (3), hex nuts (7) and lock washers (8) by aligning the holes in the end plates with the holes on the edge of the moldboard while the upper and lower edge of the side plates (1) insure plate is flush with the top and bottom of the moldboard.

E. Place the left and right braces (2 and 4) and secure the moldboard and end plates (1) with four screws (6), lock washers (8), and hex nuts (7).

F. Lower the rear blade to the floor.

1. End Plates
2. Tensor Left
3. Spacer
4. Tensor Right
5. Screw 5/8 x 3 1/2 - 11 UNC G5
6. Screw 5/8 x 1 1/2 - 11 UNC G5
7. Hex, 5/8
8. Lock washer, 5/8



NB80-035

SKID SHOES ASSEMBLY C6100002 (OPTIONAL)

A. Attach the rear blade to the tractor and level the mainframe.

B. Raise rear blade 5cm. from ground operating tractor lift control.

C. Support rear blade on blocks correctly when installing the skid shoes to prevent accidents if the rear blade drops due to loss of hydraulic pressure.

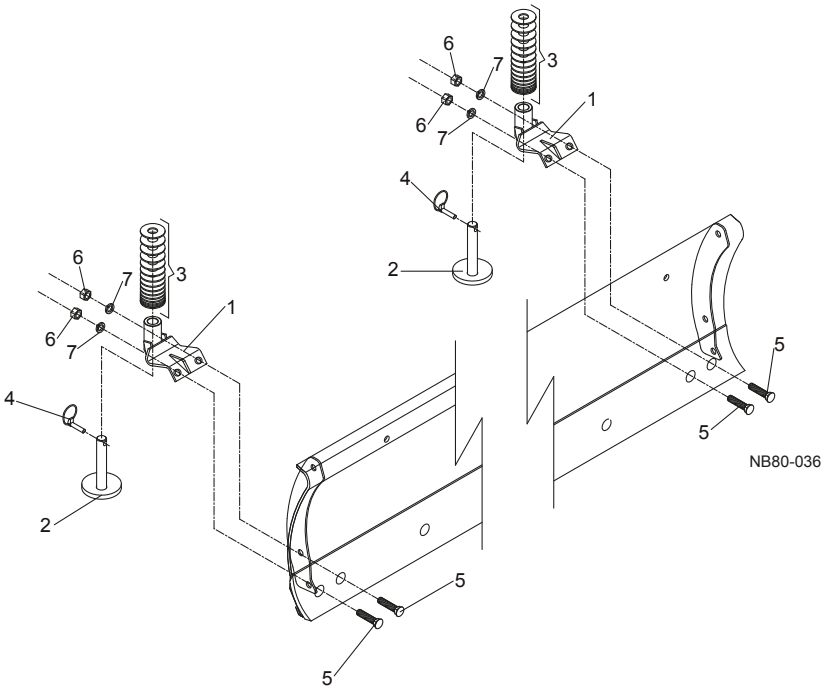
D. Remove the two plow bolts from both ends of the rear blade.

E. Mount the two skid shoes (1) to the moldboard with two additional plow bolts (5), lock washer (7) and hex nuts (6).

F. Insert the stand of the the skid (2) through the skid shoe (1) and stack the fifteen flat washers (3) on top of each stand of skid shoe (2) and secure with lynch pin (4). To adjust the height the skid shoe, you must place the flat washers (3) from the top to the bottom of the stand of the skid shoes (2) to the desired height part.

G. Lower the rear blade to the floor.

1. Skid Shoe
2. Skid Shoe Stand
3. Flat Washer, 1
4. Agricultural lock, 3/8
5. Plow Bolt, 5/8 x 2 1/2 -11 UNC G5
6. Hex, 5/8
7. Lock Washer, 5/8

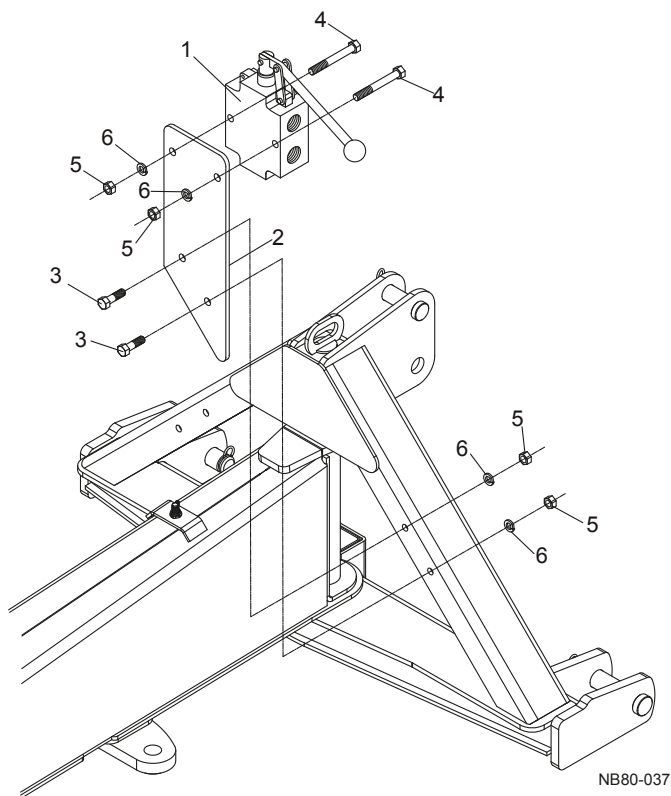


SELECTOR VALVE ASSEMBLY C6300051 (OPTIONAL)

A. Insert the two screws (4) through the selector valve (1) and the valve holder of the selector valve (2) as shown in the drawing and securely fasten with two hex nuts (5) and two lock washers (6).

B. Fit latch assembly to the frame as shown using two screws (3), two hex nuts (5) and two lock washers (6).

1. Selector Valve
2. Valve Holder
3. Screw hex. 3/8 x 1 1/4 - 16 UNC G5
4. Screw hex. 3/8 x 3 - 16 UNC G5
5. Nut hex. 3/8
6. Lock washer, 3/8



HOSE ASSEMBLY WITH DIVIDER VALVE (OPTIONAL)

A. Connect the hose (4) to the elbow angle cylinder port (B) and the port (B) of the selector valve (1) using the elbow (5). Connect the hose (4) with the side port (F) of the cylinder and the port angle (F) of the selector valve (1) using the elbow (5).

B. Connect the hose (3) to the port side (E) of the offset cylinder port (E) of the selector valve (1) using the elbow (5). Connect the hose (3) to the port side (A) of the cylinder side-scrolling and port (A) of the selector valve (1) using the elbow (5).

C. Connect the hose (2) to the port (D) of the selector valve (1) and the quick connector. Connect the other hose (2) to port (C) of the selector valve (1) and the quick connector.

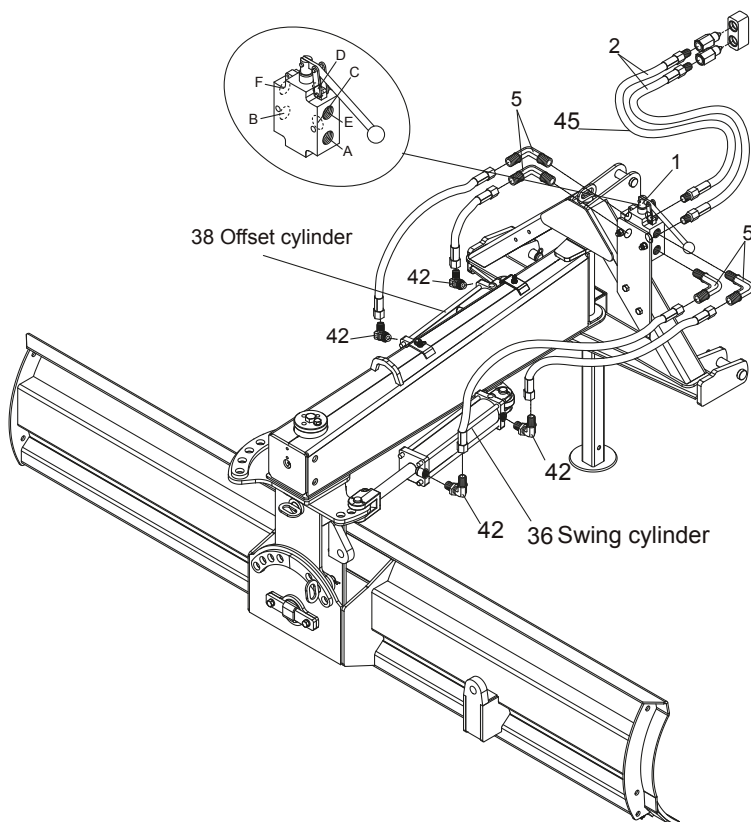
A. Assembly of the selector valve

B. Hose 8M3K-8MP-8MP-1.50

C. Hose 8M3K-8FJX-8FJX-1.00

D. Hose, 8M3K-8FJX-8FJX-1.75

E. Elbow 8MP 8 MJ-90 with nut



NB80-038

TAIL WHEEL SINGLE (KMCN010) & DOUBLE (KMCN011) (OPTIONAL)

A. Install the wheel (9) in the single or double clevis (3) using nuts (10). Attach the clevis arm (2) by lacing the lower flange (5) in the middle. Secure the castle nut (17), upper washer (6) and key (18).

A. Install the junction box (1) to the mainframe of the rear blade and secure it with two screws (12) hex nuts (13) and the lock washer (14). Mount the arm to the junction box (1) and secure with bolt pivot (4) and lock "R" (15).

B. Connect 3X8 cylinder (21) in the upper hole of the arm (2) and the junction box (1). Secure with bolts and lock "R". Install and tighten the elbows (22) to the cylinder (21).

C. Install hoses (23) with an elbow (22) fixing the hose securing them with plastic straps (25).

D. Install the quick male coupler (24) for the pipes (23) and connect them to the tractor. Secure hoses on the plane bulldozer using the hose clamp (26) and hex nut (27).

Frame Junction box

1 clevis wheel

Clevis for 2 wheels

Washer lower pivot pin

Top washer

Solid laminated wheel 6 x 9 (not including

hub) Auto nut. 1/2 - 20 UNF

Torn. Hex. 3/4 x 9-10 UNC G5 Nut 3/4 - 10 UNC

Security lock washer 3/4 "R" 1/8 day.

Straight grease fitting 1/8 - 21/32 NPT Nut

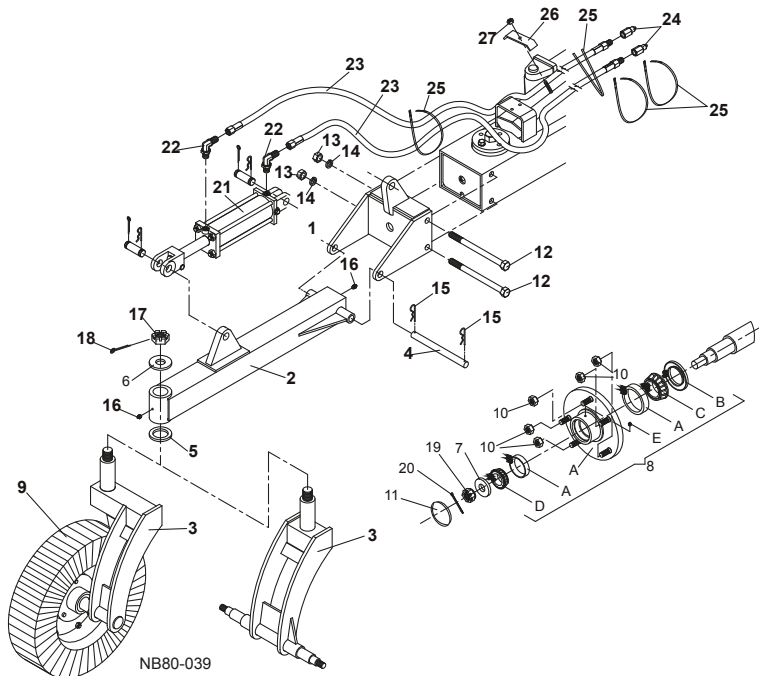
cast. 1 1/4 - 12 UNF 3/16 x 2 1/2 Cotter

Cylinder 3 x 8 (SAE 9208)

8MB-elbow with nut 90 8 MJ Mang. 8M3K- 8MP-8FJX 3.60

Clamp connector largest fast-08FP Cinch

08MQBA T50L9M4 15 1/2 hose length hex nut. 3/8 - 16 UNC



DELIVERY CHECKLIST

CHECK LIST BEFORE DELIVERY (responsibility of the dealer)

Inspect the equipment thoroughly after assembly.

Make sure it is properly configured prior to delivery to the customer.

The following checklists are a reminder of the items to be inspected. Mark each item, finding either satisfactory or after making a proper fit.

___ Check that all safety labels are installed and in good condition. Replace if damaged.

___ Check all bolts to ensure they are properly tightened.

___ Check that all pins and safety pins are properly installed. Replace if damaged.

___ Check and lubricate all lubrication points.

CHECK LIST FOR DELIVERY (responsibility of the dealer)

Show the customer how to make adjustments.

___ Point safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasizing the increase of security risks when instructions are not followed.

___ Instruct the customer how to lubricate and explain the importance of lubrication.

___ Present operator's manual and request that customer and all operators read before operating equipment. Point out the rules of safety manuals, explain its meaning and emphasize the increase of the security risks that exist when not follow safety rules.

___ Explain to the customers when the equipment is transported on a road or highway, an emblem (SMV) should be used to provide a warning suitable operators of other vehicles.



INDEX PARTS

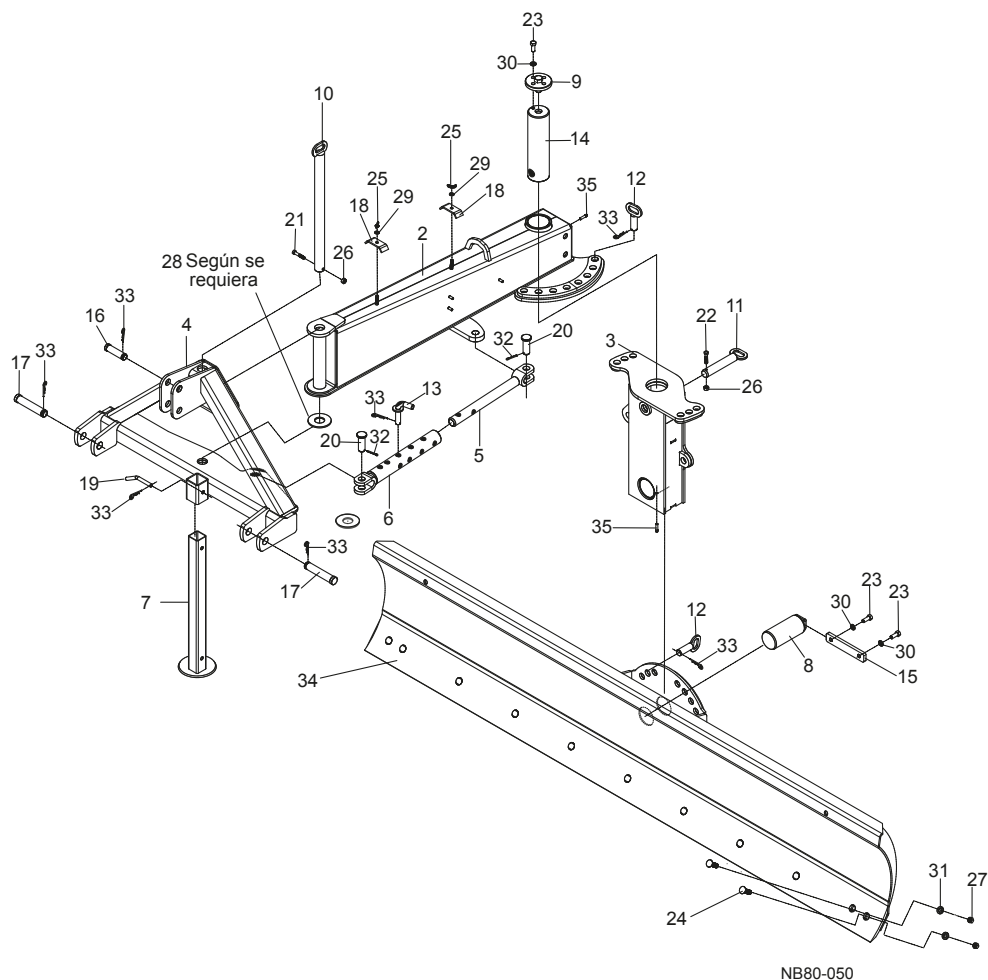
REAR BLADE

NB80-180 / NB80-210 / NB80-240 / NB80-270

NB120-210 / NB120-240 / NB120-270 / NB120-300

- 45..... **MAIN ASSEMBLY NB80 / NB120 (MANUAL)**
- 46..... **PART LIST MAIN ASSEMBLY NB80 (MANUAL)**
- 47..... **PART LIST MAIN ASSEMBLY NB120 (MANUAL)**
- 48..... **MAIN ASSEMBLY (HYDRAULIC)**
- 49..... **PART LIST MAIN ASSEMBLY NB80 (HYDRAULIC)**
- 50..... **PART LIST MAIN ASSEMBLY NB120 (HYDRAULIC)**
- 51..... **CYLINDERS AND HOSES ASSEMBLY**
- 52..... **DIVERTER VALVE KIT ASSEMBLY C6300051**
- 53..... **HYDRAULIC DIVERTER VALVE**
- 54..... **HOSE ASSEMBLY FOR DIVERTER VALVE KIT**
- 55..... **HYDRAULIC CYLINDER ASSEMBLY KHCN105 & KHCN106**
- 56..... **HYDRAULIC CYLINDER ASSEMBLY KHCN105**
- 57..... **END PLATES ASSEMBLY C6200003**
- 58..... **SKID STEER ASSEMBLY C6100002**
- 59..... **TAIL WHEEL ASSEMBLY SINGLE (C6600001) Y DOUBLE (C6600002)**
- 60..... **PART LIST FOR TAIL WHEEL SINGLE (C6600001) Y DOUBLE (C6600002)**

MAIN ASSEMBLY (MANUAL) **NB80-180 / NB80-210 / NB80-240 / NB80-270** **NB120-210 / NB120-240 / NB120-270 / NB120-300**



PARTS LIST NB80 MAIN ASSEMBLY (MANUAL)

REF.	PART	QTY.	DESCRIPTION
1	CN06090100W	1	MOLDBOARD 6 FT (1.8 M)
	O		or
1	CN07120100W	1	MOLDBOARD 7 FT (2.1 M)
	O		or
1	CN08120100W	1	MOLDBOARD 8 FT (2.4 M)
	O		or
1	CN09060100W	1	MOLDBOARD 9 FT (2.7 M)
2	CN09060200W	1	MAINFRAME
3	CN09060300W	1	TURNABLE
4	CN09060400W	1	3-POINT FRAME
5	CN09060500W	1	INNER TILT LINK
6	CN09060600W	1	OUTER TILT LINK
7	CN09060700W	1	STAND
8	CN09060800W	1	MOLBOARD PIVOT PIN
9	CN09060900W	1	KING PIN CAP
10	CN09061000W	1	3-POINT PIVOT PIN
11	CN09061100W	1	KING PIN RETAINER
12	CN09061200W	2	TILT AND ANGLE PIN
13	CN09061300W	1	LINKAGE PIN
14	CN09060001C	1	KING PIN
15	CN09060002C	1	MOLDBOARD PIVOT PIN RETAINER
16	CN09060003C	1	PSE PIN
17	CN09060004C	2	BASE PIN
18	CN10040005C	2	HOSE HOLDER
19	SU05010002C	1	STAND PIN
20	AR01010004C	2	LONG ARM ANGLE PIN
21	*	1	BOLT HEX. 3/8 X 2-16 UNC GMAQ.
22	*	1	BOLT HEX. 3/8 X 1 3/4 - 16 UNC G5
23	*	3	BOLT HEX. 1/2 X 1 1/4 - 13 UNC G5
24	*	±	BOLT ARADO 5/8 X 2 - 11 UNC G5
25	*	2	NUT 3/8 - 16 UNC BUTTERFLY
26	*	2	NUT 3 / 8-16UNC INC NYLON
27	*	±	NUT PES. 5/8 - 11 UNC
28	*	1	WASHER FLAT 1 1/2
29	*	2	PRESSURE WASHER 3/8 "
30	*	3	PRESSURE WASHER 1/2 "
31	*	±	PRESSURE WASHER 5/8
32	*	2	COTTER 3/16 X 1 1/2
33	*	7	LOCK "R" 1/8 DIA.
34	4370-1030-00	1	BLADE 6 FT (1.80M) - 249-600
	O		or
34	4370-1050-00	1	BLADE 7 FT (2.10M) - 249-700
	O		or
34	4370-1070-00	1	BLADE 8 FT. (2.40 M) - 249-800
	O		or
34	4370-1080-00	1	BLADE 9 FT. (2.70 M) - 249-900
35	*	1	GREASE FITTING STRAIGHT 1/8 X 1 - 1/4 NPT (H200LA)
50	TACN09060015K		SAFETY DECALS KIT NB REAR BLADES
51	TACN09060016K		COMPLETE DECALS KIT NB80-180/ NB80-210/ NB80-240/ NB80-270
52	TACN09060017K		OPERATOR'S MANUAL NB MODEL

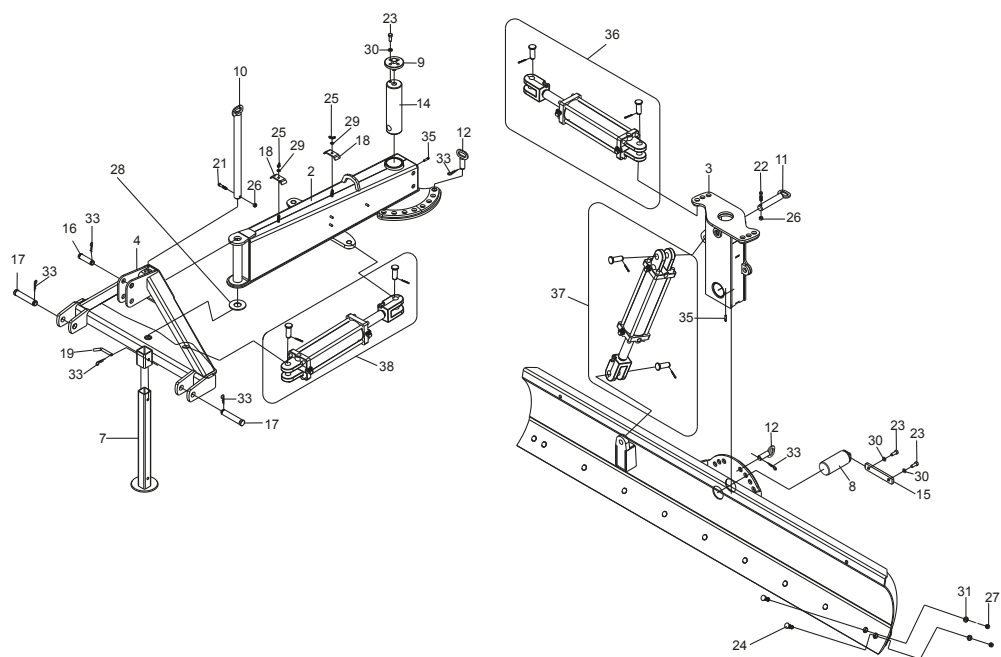
± 8 FOR NB80-180, 9 FOR NB80-210, 10 FOR NB80-240, 11 FOR NB80-270
 * STANDARDIZED BOLTS THAT CAN BE SOURCED LOCALLY

PARTS LIST NB120 MAIN ASSEMBLY (MANUAL)

REF.	PART	QTY.	DESCRIPTION
1	CN07130100W	1	MOLDBOARD 7 FT (2.1 M)
	O		or
1	CN08130100W	1	MOLDBOARD 8 FT (2.4 M)
	O		or
1	CN09070100W	1	MOLDBOARD 9 FT (2.7 M)
	O		or
1	CN10080100W	1	MOLDBOARD 10 FT (3.0 M)
2	CN09070200W	1	MAINFRAME
3	CN09070300W	1	TURNABLE
4	CN09070400W	1	3-POINT FRAME
5	CN09060500W	1	INNER TILT LINK
6	CN09060600W	1	OUTER TILT LINK
7	CN09060700W	1	STAND
8	CN09060800W	1	MOLBOARD PIVOT PIN
9	CN09060900W	1	KING PIN CAP
10	CN09061000W	1	3-POINT PIVOT PIN
11	CN09061100W	1	KING PIN RETAINER
12	CN09061200W	2	TILT AND ANGLE PIN
13	CN09061300W	1	LINKAGE PIN
14	CN09060001C	1	KING PIN
15	CN09060002C	1	MOLDBOARD PIVOT PIN RETAINER
16	CN09060003C	1	PSE PIN
17	CN09060004C	2	BASE PIN
18	CN10040005C	2	HOSE HOLDER
19	SU05010002C	1	STAND PIN
20	AR01010004C	2	LONG ARM ANGLE PIN
21	*	1	BOLT HEX. 3/8 X 2-16 UNC GMAQ.
22	*	1	BOLT HEX. 3/8 X 1 3/4 - 16 UNC G5
23	*	3	BOLT HEX. 1/2 X 1 1/4 - 13 UNC G5
24	*	✱	BOLT ARADO 5/8 X 2 - 11 UNC G5
25	*	2	NUT 3/8 - 16 UNC BUTTERFLY
26	*	2	NUT 3 / 8-16UNC INC NYLON
27	*	✱	NUT PES. 5/8 - 11 UNC
28	*	1	WASHER FLAT 1 1/2
29	*	2	LOCK WASHER 3/8 "
30	*	3	LOCK WASHER 1/2 "
31	*	✱	LOCK WASHER 5/8
32	*	2	COTTER 3/16 X 1 1/2
33	*	7	LOCK "R" 1/8 DIA.
34	4370-1050-00	1	BLADE 7 FT (2.10M) - 249-700
	O		or
34	4370-1070-00	1	BLADE 8 FT. (2.40 M) - 249-800
	O		or
34	4370-1080-00	1	BLADE 9 FT. (2.70 M) - 249-900
	O		or
34	4370-1100-00	1	BLADE 10 FT. (3.00 M) - 249-1000
35	*	1	GREASE FITTING STRAIGHT 1/8 X 1 - 1/4 NPT (H200LA)
50	TACN09060015K		SAFETY DECALS KIT NB REAR BLADES
51	TACN09070016K		COMPLETE DECALS KIT NB120-210/ NB120-240/ NB120-270/ NB120-300
52	TACN09060017K		OPERATOR'S MANUAL NB MODEL
53	TACN09070020K		COMPLETE DECALS KIT NB120-210/ NB120-240/ NB120-270/ NB120-300

✱ 9 FOR NB120-210, 10 FOR NB120-240, 11 FOR NB120-270, 12 FOR NB120-300
* STANDARIZED BOLTS THAT CAN BE SOURCED LOCALLY

MAIN ASSEMBLY (HYDRAULIC) **NB80-180 / NB80-210 / NB80-240 / NB80-270** **NB120-210 / NB120-240 / NB120-270 / NB120-300**



NB80-051

PARTS LIST NB80

MAIN ASSEMBLY (HYDRAULIC)

REF.	PART	QTY.	DESCRIPTION
1	CN06090100W	1	MOLDBOARD 6 FT (1.8 M)
	O		or
1	CN07120100W	1	MOLDBOARD 7 FT (2.1 M)
	O		or
1	CN08120100W	1	MOLDBOARD 8 FT (2.4 M)
	O		or
1	CN09060100W	1	MOLDBOARD 9 FT (2.7 M)
2	CN09060200W	1	MAINFRAME
3	CN09060300W	1	TURNTABLE
4	CN09060400W	1	3-POINT FRAME
7	CN09060700W	1	STAND
8	CN09060800W	1	MOLBOARD PIVOT PIN
9	CN09060900W	1	KING PIN CAP
10	CN09061000W	1	3-POINT PIVOT PIN
11	CN09061100W	1	KING PIN RETAINER
12	CN09061200W	2	TILT AND ANGLE PIN
14	CN09060001C	1	KING PIN
15	CN09060002C	1	MOLDBOARD PIVOT PIN RETAINER
16	CN09060003C	1	PSE PIN
17	CN09060004C	2	BASE PIN
18	CN10040005C	2	HOSE HOLDER
19	SU05010002C	1	STAND PIN
20	AR01010004C	2	LONG ARM ANGLE PIN
21	*	1	BOLT HEX. 3/8 X 2-16 UNC GMAQ.
22	*	1	BOLT HEX. 3/8 X 1 3/4 - 16 UNC G5
23	*	3	BOLT HEX. 1/2 X 1 1/4 - 13 UNC G5
24	*	±	BOLT ARADO 5/8 X 2 - 11 UNC G5
25	*	2	NUT 3/8 - 16 UNC BUTTERFLY
26	*	2	NUT 3 / 8-16UNC INC NYLON
27	*	±	NUT PES. 5/8 - 11 UNC
28	*	1	WASHER FLAT 1 1/2
29	*	2	PRESSURE WASHER 3/8 "
30	*	3	PRESSURE WASHER 1/2 "
31	*	±	PRESSURE WASHER 5/8
33	*	6	LOCK "R" 1/8 DIA.
34	4370-1030-00	1	BLADE 6 FT (1.80M) - 249-600
	O		or
34	4370-1050-00	1	BLADE 7 FT (2.10M) - 249-700
	O		or
34	4370-1070-00	1	BLADE 8 FT. (2.40 M) - 249-800
	O		or
34	4370-1080-00	1	BLADE 9 FT. (2.70 M) - 249-900
35	*	1	GREASE FITTING STRAIGHT 1/8 X 1 - 1/4 NPT (H200LA)
36	CN99480000A		KHCN102, ANGLE HYDRAULIC KIT
37	CN99540000A		KHCN105, TILT HYDRAULIC KIT
38	CN99550000A		KHCN106, OFFSET HYDRAULIC KIT
50	TACN09060015K		SAFETY DECALS KIT NB REAR BLADES
51	TACN09060016K		COMPLETE DECALS KIT NB80-180/ NB80-210/ NB80-240/ NB80-270
52	TACN09060017K		OPERATOR'S MANUAL NB MODEL
53	TACN09060020K		COMPLETE DECALS KIT NB80-180/ NB80-210/ NB80-240/ NB80-270

± 8 FOR NB80-180, 9 FOR NB80-210, 10 FOR NB80-240, 11 FOR NB80-270
 * STANDARIZED BOLTS THAT CAN BE SOURCED LOCALLY

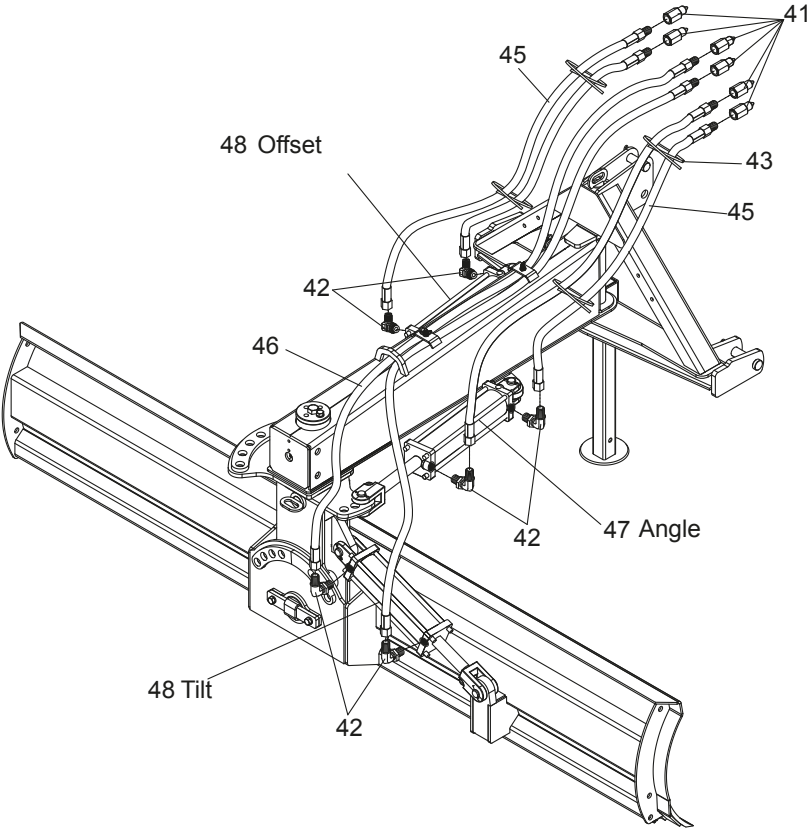
PARTS LIST NB120

MAIN ASSEMBLY (HYDRAULIC)

REF.	PART	QTY.	DESCRIPTION
1	CN07130100W	1	MOLDBOARD 7 FT (2.1 M)
	O		or
1	CN08130100W	1	MOLDBOARD 8 FT (2.4 M)
	O		or
1	CN09070100W	1	MOLDBOARD 9 FT (2.7 M)
	O		or
1	CN10080100W	1	MOLDBOARD 10 FT (3.0 M)
2	CN09070200W	1	MAINFRAME
3	CN09070300W	1	TURNTABLE
4	CN09070400W	1	3-POINT FRAME
7	CN09060700W	1	STAND
8	CN09060800W	1	MOLBOARD PIVOT PIN
9	CN09060900W	1	KING PIN CAP
10	CN09061000W	1	3-POINT PIVOT PIN
11	CN09061100W	1	KING PIN RETAINER
12	CN09061200W	2	TILT AND ANGLE PIN
14	CN09060001C	1	KING PIN
15	CN09060002C	1	MOLDBOARD PIVOT PIN RETAINER
16	CN09060003C	1	PSE PIN
17	CN09060004C	2	BASE PIN
18	CN10040005C	2	HOSE HOLDER
19	SU05010002C	1	STAND PIN
20	AR01010004C	2	LONG ARM ANGLE PIN
21	*	1	BOLT HEX. 3/8 X 2-16 UNC GMAQ.
22	*	1	BOLT HEX. 3/8 X 1 3/4 - 16 UNC G5
23	*	3	BOLT HEX. 1/2 X 1 1/4 - 13 UNC G5
24	*	±	BOLT ARADO 5/8 X 2 - 11 UNC G5
25	*	2	NUT 3/8 - 16 UNC BUTTERFLY
26	*	2	NUT 3 / 8-16UNC INC NYLON
27	*	±	NUT PES. 5/8 - 11 UNC
28	*	1	WASHER FLAT 1 1/2
29	*	2	LOCK WASHER 3/8 "
30	*	3	LOCK WASHER 1/2 "
31	*	±	LOCK WASHER 5/8
33	*	6	LOCK "R" 1/8 DIA.
34	4370-1050-00	1	BLADE 7 FT (2.10M) - 249-700
	O		or
34	4370-1070-00	1	BLADE 8 FT. (2.40 M) - 249-800
	O		or
34	4370-1080-00	1	BLADE 9 FT. (2.70 M) - 249-900
	O		or
34	4370-1100-00	1	BLADE 10 FT. (3.00 M) - 249-1000
35	*	1	GREASE FITTING STRAIGHT 1/8 X 1 - 1/4 NPT (H200LA)
36	CN99480000A		KHCN102, ANGLE HYDRAULIC KIT
37	CN99540000A		KHCN105, TILT HYDRAULIC KIT
38	CN99550000A		KHCN106, OFFSET HYDRAULIC KIT
50	TACN09060015K		SAFETY DECALS KIT NB REAR BLADES
51	TACN09070016K		COMPLETE DECALS KIT NB120-210/ NB120-240/ NB120-270/ NB120-300
52	TACN09060017K		OPERATOR'S MANUAL NB MODEL
53	TACN09070020K		COMPLETE DECALS KIT NB120-210/ NB120-240/ NB120-270/ NB120-300

± 9 FOR NB120-210, 10 FOR NB120-240, 11 FOR NB120-270, 12 FOR NB120-300
 * STANDARIZED BOLTS THAT CAN BE SOURCED LOCALLY

ASSEMBLY, HOSE AND CYLINDER LIST



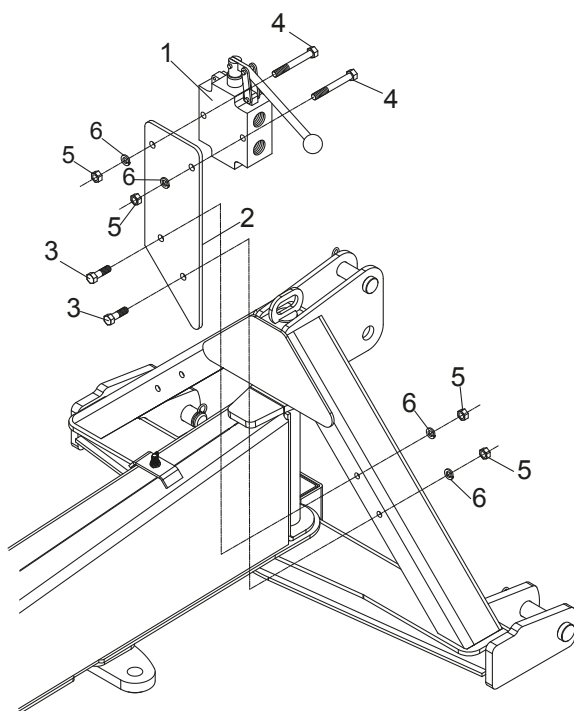
NB80-052

REF.	PART	QTY.	DESCRIPTION
41	TA4110-6012-00	6	QUICK MALE COUPLER 08MQBA-08FP(8010-04)
42	TA4120-1159-50	6	ELBOW 8MB-8MJ 90 WITH NUT
43	N/S	12	STRAP T50L9M4 15 1/2 "long
44	N/S	3	C. WAR. HIGH PRESSURE (19924-B)
45	TA4430-1567-40	4	MANG. 8M3K-8MP-8FJX-2.40
46	TA4430-1568-05	2	MANG. 8M3K-8MP-8FJX-3.05
47	TA4110-4060-01		CYLINDER 3 X 12 (B3001ABAAA07B)
48	TA4110-4047-01		CYLINDER 3 X 8 (BF-0385 Rev F)

N/S NOT SELLED SEPARATELY

DIVERTER KIT ASSEMBLY

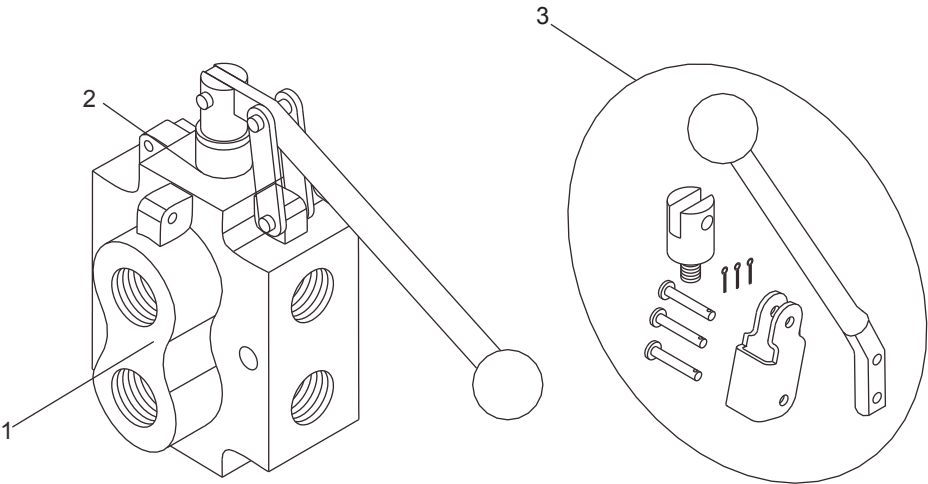
C6300051



NB80-037

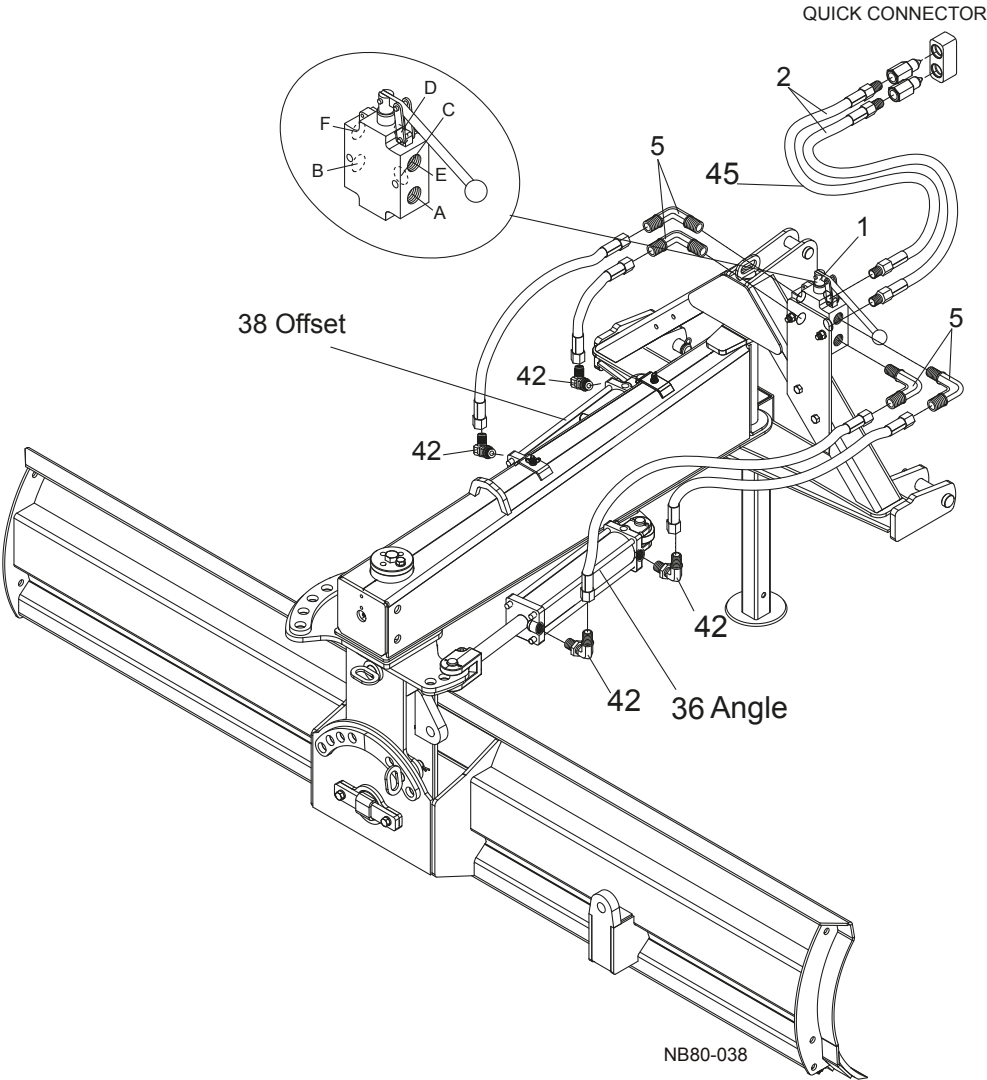
REF.	PART	QTY.	DESCRIPTION
1	TA4110-2050-07	1	DIVERTER VALVE
	TACN99280001C	1	VALVE HOLDER
3	*	2	BOLT HEX. 3/8 x 1 1/4 - 11 UNC G5
4	*	2	BOLT HEX. 3/8 x 3-11 UNC G5
5	*	4	HEX 3/8 - 16 UNC
6	*	4	LOCK WASHER 3/8

**HYDRAULIC DOUBLE DIVERTER VALVE KIT
C6300051 (OPTIONAL)**



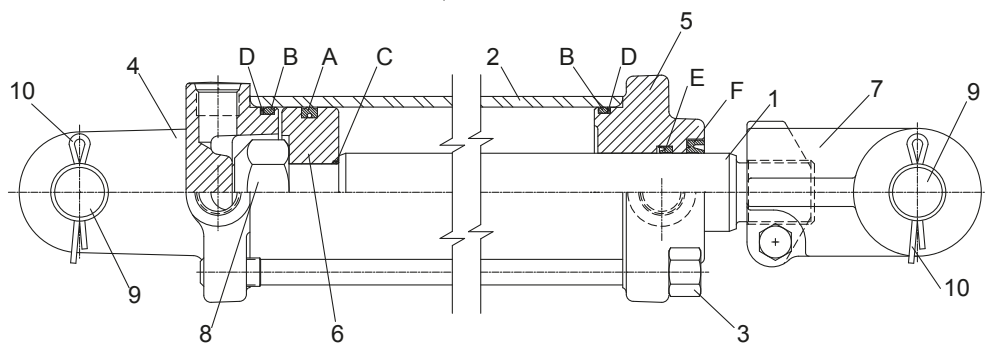
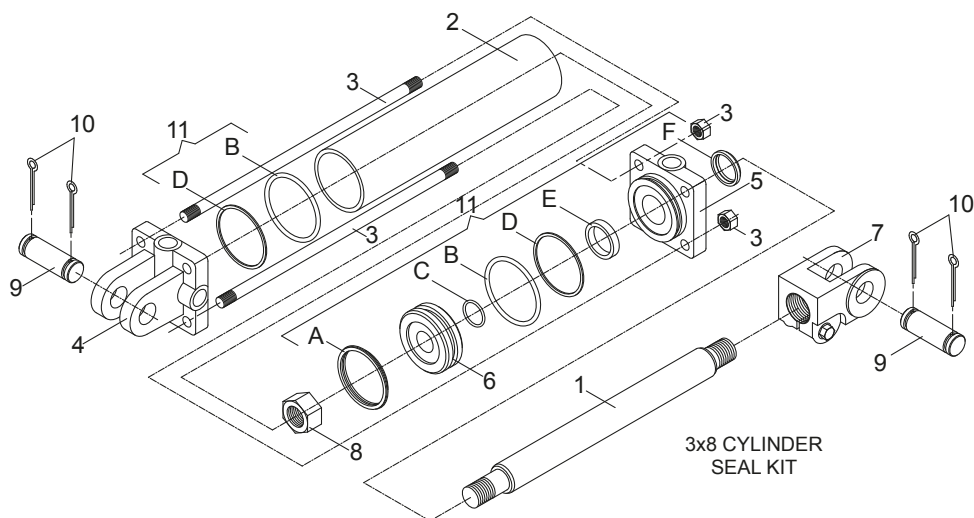
REF.	PART	QTY.	DESCRIPTION
1	TA4110-2050-07	1	DIVERTER VALVE KIT DOUBLE DS1A1E
2	TA4110-0010-50	1	SEAL KIT FOR SELECTOR VALVE
3	TA4110-0020-50	1	KIT OF LEVER SELECTOR VALVE

DOUBLE DIVERTER VALVE KIT HOSE ASSEMBLY (OPTIONAL)



REF.	PART	QTY.	DESCRIPTION
1	*	1	DIVERTER VALVE KIT
2	TA4430-0121-50	2	HOSE-8M3K-8MP 8MP-1.50
3	TA4430-2566-00	2	HOSE 8M3K-8FJX-8FJX-1.00
4	TA4430-2566-75	2	HOSE, 8M3K-8FJX-8FJX-1.75
5	TA4120-1212-35	4	8MP 8 MJ-90 ELBOW WITH NUT

PART LIST & HYDRAULIC CYLINDER ASSEMBLY KHCN105 & KHCN106

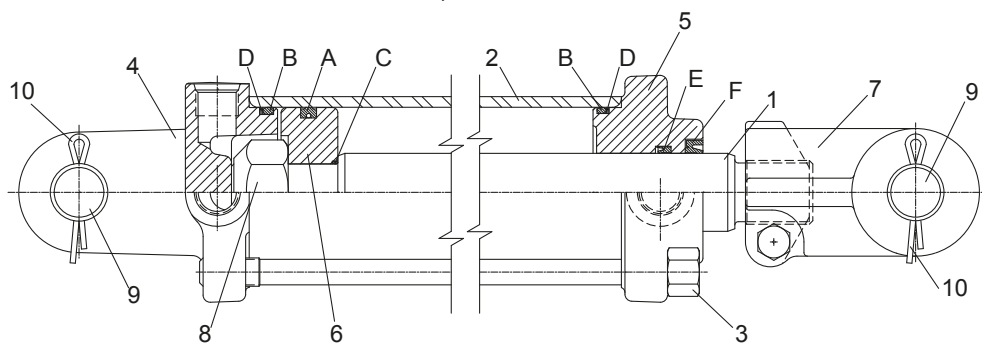
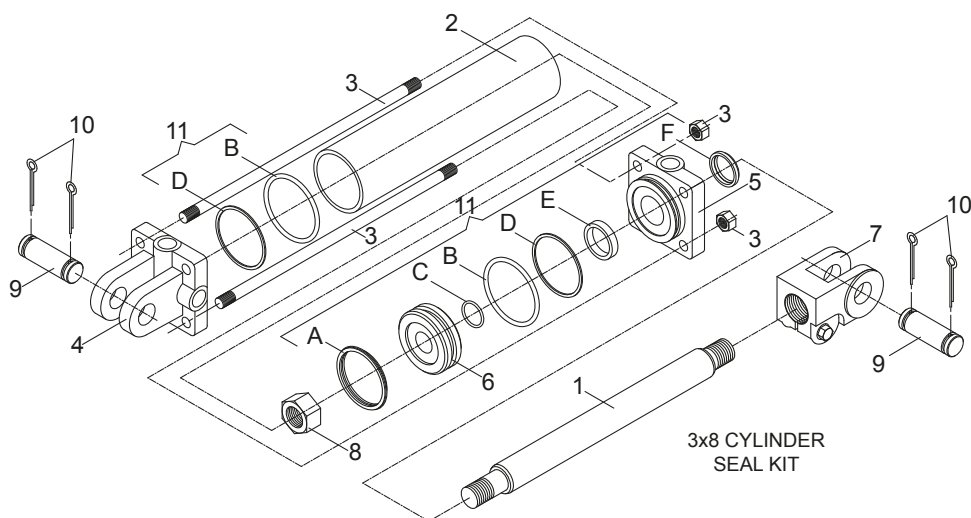


NB80-054

REF.	PART	QTY.	DESCRIPTION
1	N/S	1	CYLINDER ROD
2	N/S	1	CYLINDER LINER
3	N/S	4	SHAFT WITH NUT
4	N/S	1	COVER DOG WITH LUGS
5	N/S	1	COVER DOG
6	N/S	1	PISTON
7	N/S	1	CLEVIS
8	N/S	1	LOCK NUT 1-14
9	N/S	2	BOLT CYLINDER
10	N/S	4	COTTER 3/16 x 2
11	TA4110-4056-05		SEAL KIT FOR CYLINDER 3X8
A		1	POLIPACK TWO WAY
B		2	O-RING
C		1	O-RING
D		2	SUPPORT
E		1	CLEANER "U"
F		1	CLEANER "D"

N/S NOT SELLED SEPARATELY

PARTS LIST & HYDRAULIC CYLINDER ASSEMBLY KHCN102

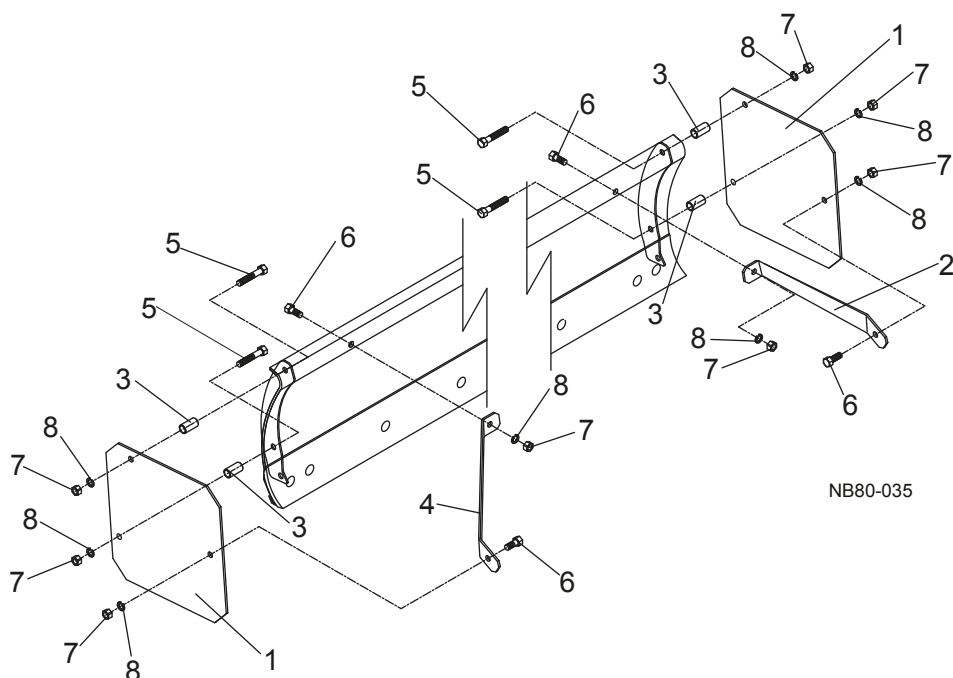


NB80-055

REF.	PART	QTY.	DESCRIPTION
1	N/S	1	CYLINDER ROD
2	N/S	1	CYLINDER LINER
3	N/S	4	SHAFT WITH NUT
4	N/S	1	COVER DOG WITH LUGS
5	N/S	1	COVER DOG
6	N/S	1	PISTON
7	N/S	1	CLEVIS
8	N/S	1	LOCK NUT 1-14
9	N/S	2	BOLT CYLINDER
10	N/S	4	COTTER 3/16 x 2
11	TA4110-4056-05		SEAL KIT FOR CYLINDER 3X8
A		1	POLIPACK TWO WAY
B		2	O-RING
C		1	O-RING
D		2	SUPPORT
E		1	CLEANER "U"
F		1	CLEANER "D"

N/S N/S NOT SELLED SEPARATELY

END PLATES ASSEMBLY C6200003 (OPTIONAL)



NB80-035

REF.	PART	QTY.	DESCRIPTION
1	N/S	2	END PLATES
2	N/S	1	LEFT TENSOR
3	N/S	4	SPACER
4	N/S	1	RIGHT LEFT TENSOR
5	*	4	BOLT HEX. 5/8 X 3 1/2 HHCS GR5
6	*	4	BOLT HEX. 5/8 X 1 1/2 HHCS GR5
7	*	8	NUT HEX. 5/8 - 11
8	*	8	WASHER-PRESSURE 5/8

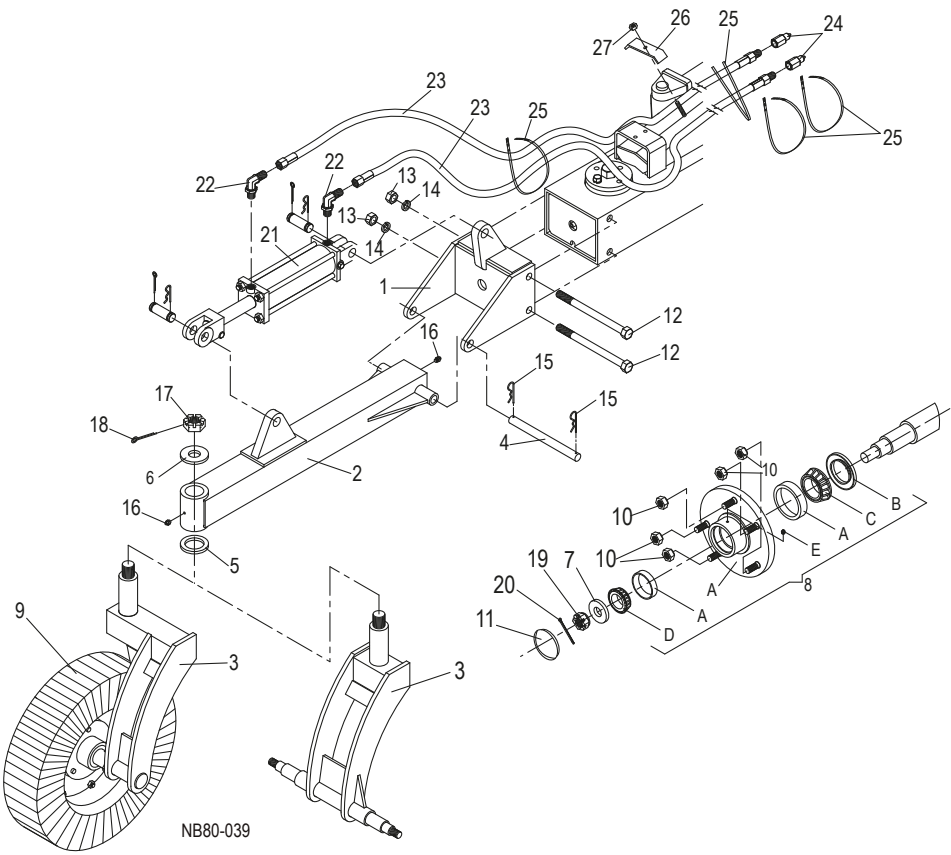
* COMMERCIAL HARDWARE IS
AVAILABLE LOCALLY

N/S N/S NOT SELLED SEPARATELY

[illegible]

REF.	PART	QTY.	DESCRIPTION
1	N/S	2	SKID SHOE
2	TACN99030200W	2	SKID SHOE STAND
3	*	30	FLAT WASHER 1
4	*	2	LYNCH PIN 3/8
5	*	4	PLOW BOLT 5/8 x 2 1/2 GR5
6	*	4	HEX NUT 5/8 - 11
7	*	4	LOCK WASHER 5/8
		*	COMMERCIAL HARDWARE IS AVAILABLE LOCALLY
		N/S	NOT SELLER SEPARATELY

TAIL WHEEL ASSEMBLY **SINGLE (KMCN010) DOUBLE (KMCN011) (OPTIONAL)**






PARTS LIST

TAILWHEEL SINGLE (KMCN010), DOUBLE (KMCN011) (OPTIONAL)

REF.	PART	QTY.	DESCRIPTION
1	TACN99100100W	1	JUNCTION BOX
2	TACN99210200W	1	CHASSIS
3	N/S	1	CLEVIS FOR 1 WHEEL
	o		0
	N/S	1	CLEVIS FOR 2 WHEELS
4	TACN99210001C	1	PIVOT PIN
5	TACN99210002C	1	WASHER
6	TACN99210003C	1	SUPERIOR WASHER
7	TACN99210004C	⊕	WASHER FOR HUB
8	TA4380-1022-05	⊕	TAIL WHEEL HUB KIT
			INCLUDES PARTS A - E
A		1	HOUSING HUB STUDS AND CUPS INSERTED
B		1	SEAL GREASE TRP GS-1719
C		1	CONICAL BEARING 68149/11 (AREMI)
D		1	CONICAL BEARING L44649 (HYATT-SPZ)
E		1	STRAIGHT GREASE FITTING 1/16 NPT
9	TA4330-1090-02	⊕	SOLID LAMINATED WHEELS 6 x 9 (AGMATE 32443-5 BOLT)
10	*	⊕⊕	AUTO NUT 1/2 - 20 UNF
11	TA4330-3030-01	⊕	DUST CAP 21-3
12	*	2	BOLT HEX. 9t x 3/4 - 10 UNC G5
13	*	2	NUT 3/4 - 10 UNC
14	*	2	PRESSURE WASHER 3/4
15	*	2	LOCK "R" DE 1/8
16	*	2	STRAIGHT GREASE FITTING 1/8 - 21/32 NPT
17	TA4220-1022-26	1	NUT CAST 1 1/4 - 12 UNF
18	*	1	COTTER 3/16 x 2 1/2
19	TA4220-1014-26	⊕	NUT CAST 3/4 - 16 UNF
20	*	⊕	COTTER 5/32 x 1 1/2
21	TA4110-4047-01	1	CYLINDER 3 x 8 (SAE 9208)
22	TA4120-1159-50	2	ELBOW 8MB 8 MJ-90 NUT
23	TA4430-1568-60	2	HOSE 8M3K-8MP-8FJX 3.60
24	TA4110-6012-00	2	MALE COUPLER 08MQBA-08FP
25	*	4	WRAP T50L9M4 15 1/2 LENGTH
26	TACN99210005C	1	LARGE HOSE CLAMP
27	*	1	NUT HEX. 3/8 - 16 UNC
		⊕	1 FOR KMCN010 2 FOR KMCN011
		⊕⊕	5 FOR KMCN010 10 FOR KMCN011
		N/S	NOT SELLED SEPARATELY
	*		COMMERCIAL HARDWARE IS AVAILABLE LOCALLY

TORQUE SCREW SPECIFICATION

TIGHTENING SETTINGS OF NON-METRIC BOLTS (IN.)

PIN SIZE	GRADE "2"		GRADE "5"		GRADE "8"	
	N m	LB-FT	N m	LB-FT	N m	LB-FT
5/16-18	15	11	24	17	33	25
3/8-16	27	20	42	31	59	44
7/16-14	43	32	67	49	95	70
1/2-13	66	49	105	76	145	105
9/16-12	95	70	150	110	210	155
5/8-11	130	97	205	150	285	210
3/4-10	235	170	360	265	510	375
7/8-9	225	165	585	430	820	605
1-8	340	250	875	645	1230	910
Standard pin ID.  Grade "2" No Marks  Grade "5" 3 Marks  Grade "8" 6 Marks						

GENERAL INFORMATION

Screws torque values.

Always replace bolts with others of the same grade. Metric screws have the class number marked on the head.

Tighten the screws according to the table, unless otherwise indicated in operators manual. Do not over tighten the screws, as this could cause failure during operation.

Note: DO NOT use these values if a different torque value for a specific application is specified. The values given are for general use. Periodically check the tightening of the screws.

TORQUE SCREW SPECIFICATIONS

TIGHTENING SETTINGS OF METRIC BOLTS

BOLT SIZE	5.8 GRADE		8.8 GRADE		10.9 GRADE	
	N-m	LB-FT	N-m	LB-FT	N-m	LB-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 10 x 1.5	33	24	52	39	72	53
M 12 x 1.75	58	42	91	67	125	93
M 14 x 2	92	68	145	105	200	150
M 16 x 2	145	105	225	165	315	230
M 18 x 2.5	195	145	310	230	405	300
M 20 x 2.5	280	205	440	325	610	450
M 24 x 3	480	355	760	560	1050	780
Identify the metric bolts by grade which is marked on the head of the bolt or nut. Higher numbers indicate a higher resistance.						

GENERAL INFORMATION

Screws torque values.

Always replace bolts with others of the same grade. Metric screws have the class number marked on the head.

Tighten the screws according to the table, unless otherwise indicated in operators manual. Do not over tighten the screws, as this could cause failure during operation.

Note: DO NOT use these values if a different torque value for a specific application is specified. The values given are for general use. Periodically check the tightening of the screws.

THEFT PREVENTION

RECORD PRODUCT IDENTIFICATION NUMBER (P.I.N.)

Serial Number Plate for your grader blade is located on the front of the chassis.


Record the serial number in the space corresponding box on the safeguards section.


Mark the machine with your own numeration system.

Record Product Identification Number (PIN) of the machine and main components. Include numbers (PIN) in all insurance documents, financing and warranty.

Your dealer will need this information for a quick and efficient service when you order parts.

IMPORTANT: Each time it is necessary to order spare parts for your Grader blade, it is important to provide the 10 characters Serial number. It is imperative comply this requirement.

	TECNOMEC AGRICOLA, S.A. DE C.V. Carr. a Paso Blanco Km. 2 #400 Col. Vista Hermosa C.P. 20900 Jesús Ma., Aguascalientes, MEX. Tel. (52) (449) 922 47 66 / 92-BISON Fax (52) (449) 922 47 67
SERIE No:	<input type="text"/>
MODEL:	<input type="text"/>



WARRANTY

Please enter information below and save for future reference.

AUTHORIZED DEALER:	_____	SALESMAN NAME:	_____
MACHINE MODEL:	_____	SERIAL NUMBER:	_____
END CUSTOMER NAME:	_____	PURCHASE DATE:	____/____/____
	_____	TEL:	(____) _____
ADDRESS:	_____	EMAIL:	_____
	_____		_____

A. GENERAL PROVISIONS - The warranties described below are provided by Tecnomec Agrícola, S.A. de C.V. (TECNOMECE) to the original purchasers of new agricultural products from TECNOMECE or authorized dealers for a period of one (1) year under **agricultural use**. Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of purchase of such part or the expiration of the applicable new equipment warranty period, whichever occurs later. Under these warranties, TECNOMECE will repair or replace, at its discretion, any covered part which is found to be defective in material or workmanship during the applicable warranty term. Warranty service must be performed by an authorized BISON dealer, which will use only new or remanufactured parts or components furnished by TECNOMECE.

Warranty service will be performed without charge to the purchaser for parts or labor. The purchaser will be responsible, however, for any service call and/or transportation of product to and from the dealer's or service center's place of business, for any premium charged for overtime labor requested by the purchaser, and for any service and/or maintenance not directly related to any defect covered under the warranties below. At TECNOMECE's request, dealer will be responsible for returning the parts to TECNOMECE for evaluation.

B. WHAT IS WARRANTED - All parts of any new TECNOMECE product. TECNOMECE makes no warranty, express or implied, with respect to engines, batteries, tires or other parts or accessories not manufactured by TECNOMECE. Warranties for these items, if any, are provided separately by their respective manufacturers.

Each warranty term begins on the date of product delivery to the purchaser.

C. WHAT IS NOT WARRANTED TECNOMECE IS NOT RESPONSIBLE FOR THE FOLLOWING : (1) **Used Products**; (2) **Any product** that has been altered, modified, or used in connection with attachments in ways not approved by TECNOMECE; (3) Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow the product's OPERATOR MANUAL instructions, misuse, lack of proper protection during storage, or accident; (4) Normal maintenance parts and service, including, but not limited to, oil filters, coolants and conditioners, cutting parts, belts, brake and clutch linings.

Incidental or consequential losses, damages or expenses, arising directly or indirectly from the product, **whether such claim is based upon breach of contract, breach of warranty, negligence, strict liability in tort or any other legal theory. Without limiting the generality of the foregoing**, TECNOMECE specifically disclaims responsibility for any damages relating to (i) lost profits, business, revenues or goodwill; (ii) loss of crops; (iii) loss because of delay in harvesting; (iv) any expense or loss incurred for labor, supplies, substitute machinery or rental; or (v) any other type of damage to property or economic loss.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

D. SECURING WARRANTY SERVICE - To secure warranty services, the purchaser must (1) report the product defect to an authorized dealer and request repair within the applicable warranty term, (2) present evidence of the warranty start date, and (3) make the product available to the dealer or service center within 45 days.

E. NO IMPLIED WARRANTY OR OTHER REMEDY - AGRICULTURAL PRODUCTS - Where permitted by law, neither TECNOMECE nor any company affiliated with it makes any warranties, representations, or promises, express or implied as to the quality or performance, or freedom from defect of its agricultural products other than those set forth above, and NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE. IN NO EVENT WILL THE DEALER, TECNOMECE OR ANY COMPANY AFFILIATED WITH TECNOMECE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

The only remedies the purchaser has in connection with the breach of performance of any warranty on TECNOMECE agricultural products are those set forth above.

F. NO WARRANTY MODIFICATION - No agent, representative, authorized dealer, distributor, service center, serviceperson, salesperson, other than an officer from TECNOMECE is authorized to alter, modify, or enlarge this Warranty.

G. If further information is desired, contact your selling dealer or the nearest branch office of TECNOMECE

H. This Warranty is effective only if the warranty registration is electronically submitted to TECNOMECE by dealer within ten (10) days of retail purchase date.

For warranty services contact your BISON selling dealer.

PART No.
4350-2147-03



