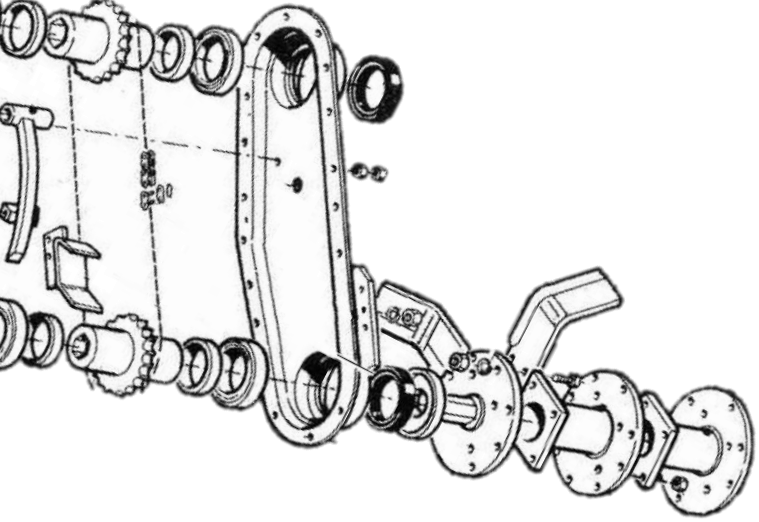
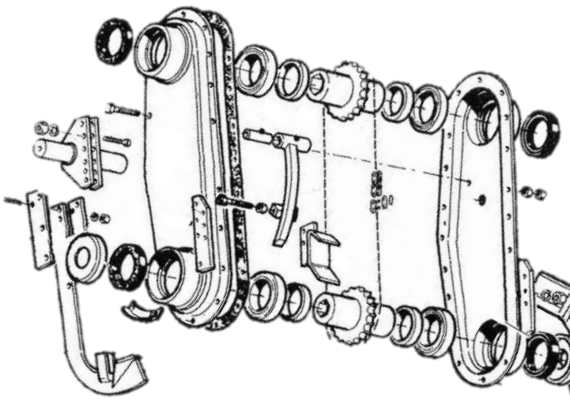




Multivator

SAFETY PRECAUTIONS

READ THIS OPERATOR'S MANUAL CAREFULLY! Read and understand these safety precautions before operating the Multivator. Only responsible properly trained individuals should be allowed to operate the machine. The operator should be familiar with the controls, all safety precautions and all potential hazards.

Never allow children to operate the Multivator. Do not permit anyone to ride on the Multivator. Do not carry riders on the tractor.

OPERATION

1. **Follow all safety decals on the machine. Keep them clean and replace them if they become worn and hard to read.**

2. **Never leave tractor or Multivator unit running unattended.**

3. **Do not modify the machine in any way unless authorized by Ford Distributing, Inc. Unauthorized modifications to the machine could result in machine damage and/or personal injury.**

4. **Keep the operating area clear of all persons – particularly small children and pets. Inspect the operating area before using the Multivator and remove any obstacles which could damage the machine, or become entangled in the blades.**

5. **Use only attachments or accessories designed for your Multivator.**

6. **Do not operate the Multivator without all guards, shields and other safety devices correctly installed.**

7. **Never use an unshielded PTO shaft, and always attach the shield retainer chain to the tractor or Multivator.**

8. **Do not allow bystanders behind the Multivator when in operation. Rocks may be thrown to the rear.**

9. **Do not operate the universal drive joint at an angle greater than 35˚, or vibration and damage could result.**

10. **Do not till across the face of slopes. Use extreme caution when turning on slopes.**

11. **Operate the Multivator only when you have good visibility. Make sure your feet are properly placed on the footrests and keep a firm grip on the steering wheel.**

12. **Be careful not to touch tractor or Multivator parts which may be hot from operation. Allow parts to cool first.**

13. **Whenever leaving the tractor and Multivator unattended, disengage the PTO, shift into neutral, set the parking brake, lower the machine, stop the engine and remove the ignition key.**

14. **Always disengage power to the Multivator when transporting or when not in use.**

MAINTENANCE AND STORAGE

1. **Never adjust, clean, repair or grease the Multivator or tractor with the tractor engine running. Stop the engine, disengage the PTO and remove the ignition key whenever you are not at the operating controls.**

2. **Do not crawl under the Multivator when it is in a raised position. Never rely on tractor hydraulics to hold the machine in a raised position. Always provide support with blocks before adjusting, cleaning, repairing or greasing the machine.**

3. **Check tightness of bolts, nuts, spring pins and clip pins frequently to ensure a safe working condition.**

4. **Follow the daily lubrication and periodic maintenance procedures as described in the Operator's Manual.**

5. **When storing the Multivator, make sure it is securely blocked in a safe, level position.**

6. **Follow proper maintenance and repair schedules to keep unit in safe working order.**

7. **Always use proper protective equipment when working on unit.**

Multivator

SPECIFICATIONS

POWER RANGE

- **FPA/FPA/FPXA: 25-100 PTO Horsepower**

TRACTOR REQUIREMENTS

- **540 RPM standard rotation**
- **PTO Category I or II three point hitch**

TRANSMISSION

- **By shielded PTO shaft assembly to single speed gearbox for use with 540 RPM tractor PTO.**
- **Friction disc slip clutch is available for extremely rugged or stony conditions.**
- **Input shaft on Multivator gearbox is 1-3/8" 6 spline.**

FINAL DRIVE

- **Power to rotor and blades is by heavy duty roller chain in sealed oil bath drive case assembly.**
- **FP/FPA/FPXA use 80H (16B) equivalent chain**

ROTOR AND BLADES

- **Multivator heads are equipped with four blades per flange.**
- **Blades are forged from chrome alloy steel, heat treated and shaped to take minimum power with maximum tillage ability.**

DEPTH CONTROL

- **The frame height is controlled by front mounted gauge wheels.**
- **Depth is controlled by adjusting the gauge wheel height via the screw jack assembly.**
- **Spring tension on the tillage heads provides positive down pressure to keep tillage heads at maximum depth while allowing the heads to float over undulations and stones.**
    - **In hard soil conditions, spring tension may be increased to provide more down pressure.**
    - **In stony conditions spring tension may be eased to allow for more flotation.**

GROUND SPEED

- **Ground speed is governed by power and soil conditions.**
    - **Hard ground will require lower travel speeds to maintain smooth operation.**

- Good ground conditions with reasonable moisture will allow travel speeds of 4-5 mph.
- Light ground conditions, shallow cultivation or a second pass will allow travel speeds of 5-6 mph.

OPTIONAL FERTILIZER KIT

- Dry granular fertilizer capacities:
  - 40” hopper – approximately 350 lbs.
  - 60” hopper – approximately 500 lbs.
  - 80” hopper – approximately 650 lbs.
- Sufficient downspouts are provided to allow for multiple row requirements. Fertilizer drive is by 2 V-belts and 3 pulleys. Drive pulley is mounted to same hexagonal shaft which power tillage heads.

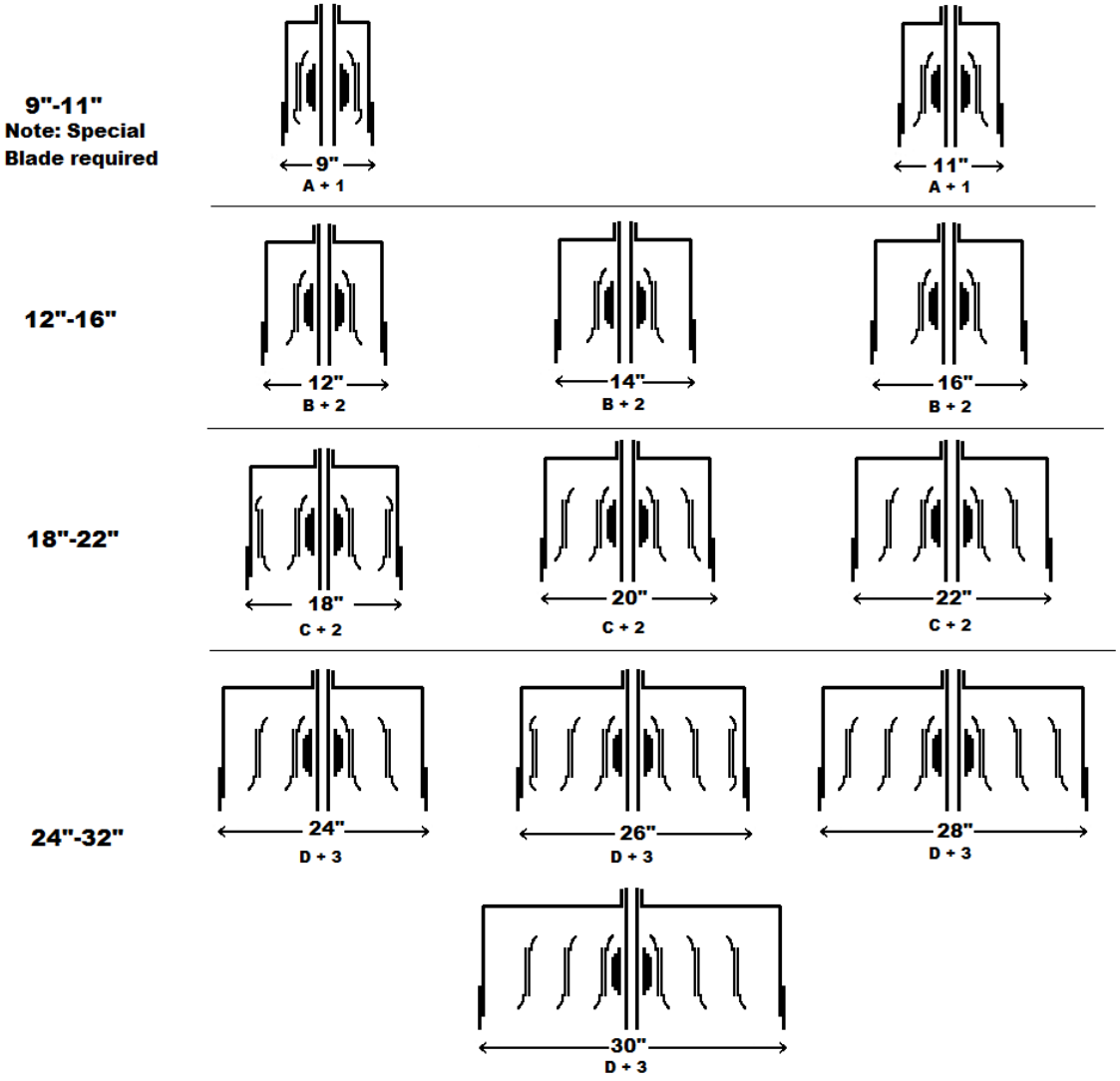
ROTOR SPEEDS AT 540 RPM PTO SPEED

- FP/FPA/FPXA 342 RP

Multivator

TECHINICAL INFORMATION

Blade Configuration FP/FPA/FPXA



REFERENCE	PART NUMBER	DESCRIPTION
A	M420160004	Extra narrow center shield
B	M420160005	Narrow center shield
C	M420160006	Medium center shield
D	M420160007	Wide center shield
1	M520162004	Narrow side shield R.H.
1	M520164004	Narrow side shield L.H.
2	M520162005	Medium side shield R.H.
2	M520164005	Medium side shield L.H.
3	M520162006	Wide side shield R.H.
3	M520164006	Wide side shield L.H.

MOUNTING MACHINE TO TRACTOR

1. **Ensure that the tractor PTO is set for 540 rpm.**

2. **Stabilizers must be used on 3 point hitch arms to limit side sway.**

3. **A lift stop must be fitted to the hydraulic lift lever to prevent over lifting of the Multivator while in operation.**

   When lifting the Multivator during normal operation, ground clearance of 6-8" under the blades is completely adequate. Under no circumstances should the Multivator be raised to the point where damage to the universal joints on the PTO shaft occurs.

Never operate the machine with the universal joints at an angle greater than 35˚. Excessive wear and damage will result!

4. **Back the tractor up to the hitching points on the Multivator. Stop a few inches away and set the tractor hitch arms to the height of the Multivator hitch pins. Shut off the tractor engine.**

5. **Remove the split pins. Roll Multivator into position and insert the hitch arms into the pins. Reinsert split pins to lock pins into position. If machine is equipped with removable hitch pins, pins must be removed before fitting the tractor arms into position.**

6. **Position tie rod as shown above. Connect tie rod to machine from tractor's third point. Rotate adjustment handle in either direction until machine is in a level position. Adjust the tractor top link so that the Multivator frame is tilted to the rear approximately 5˚ from vertical. This ensures that the leading edge of the tiller shield is higher than the trailing edge and will not plow into the ground. Make this adjustment with the machine resting on the ground.**

7. **Connect the PTO shaft assembly to the Multivator gearbox input shaft. Connect the other end of the PTO shaft assembly to the tractor PTO shaft. Ensure that the quick disconnect pins snap into place on both shafts.**

At this point you may have determined that the PTO shaft assembly needs to be shortened. If you can connect the PTO shaft to the tractor and Multivator without shortening it, you must ensure that the PTO shaft will not bottom out during operation. This may occur when raising or lowering the Multivator. If the shaft bottoms out during operation; damage may occur to the PTO shaft assembly, Multivator gearbox, and the tractor PTO.

<u>Following are 2 techniques for measuring the correct length of PTO shaft:</u>

A. **With the Multivator attached to the tractor, measure the horizontal distance from the input shaft on the gearbox to the tractor PTO shaft. Place the fully closed PTO shaft assembly on the ground and measure its overall length. If the PTO shaft assembly is shorter than the distance between the tractor PTO shaft and gearbox then you should not have to shorten it. If it is longer, then subtract the shorter measurement from the longer measurement. Add 1" to the difference. The result is the excess length that will need to be removed from each half of the PTO shaft assembly.**

B. **With the Multivator attached to the tractor, separate the PTO shaft assembly into two halves and attach one half to the tractor and one half to the Multivator. Hold each half alongside each other and determine the excess length of each half of the PTO shaft assembly.**

<u>PROCEDURE FOR CUTTING THE PTO SHAFT</u>:

1. **Separate the PTO shaft into two halves.**
2. **Using the measurement obtained above, shorten the plastic guarding using a hack saw.**
3. **Using a chop saw, or a hack saw, shorten the steel profile tube by the same amount.**
4. **Cut each half of the PTO shaft.**
5. **De-burr the profile tubes.**
6. **Grease and reassemble the PTO shaft.**

PRE-WORK INSPECTION

- Before using your Multivator, perform the following checks and services each day. (See Maintenance section for further details.)
  - Check gearbox for sufficient oil. If oil is to be added, use SAE 140 EP gear oil.
  - Grease the PTO shaft sliding sections and universal joints.
  - Grease the gauge wheel axles.
  - Remove any trash or material wrapped around the rotor or the rotor bearing covers.
  - Check for loose blades. Tighten any blade bolts as necessary. Loose blade bolts can lead to broken blades.
  - Check all bolts on machine for tightness.

SETTING DEPTH

- Cultivation depth is controlled by raising or lowering the gauge wheels on the front of the tool bar.
- With the Multivator attached to the tractor, and with the blades resting on the ground, raise the gauge wheels to the desired cultivation depth.
- Typically, this will be between 1” and 4” deep.

WORKING

- Start the tractor engine and lift the Multivator clear of the ground. Six to eight inches should be sufficient height to lift the machine. Proceed to the work site and position the tractor for the first run.
- Engage the tractor PTO, select a low gear, and move ahead slowly lowering the Multivator into the ground. Use at least ¾ throttle when starting and increase to rated engine speed at 540 PTO rpm as the Multivator sets into the soil.
- The Flow Rate Control Knob for the tractor hydraulics may need to be set to the “Slow” position to ensure gentle lowering of the machine into the ground.
- Also make sure that the three point hitch is set in the “Float” position. After a short working distance, stop the tractor and check your work to see that desired results are being obtained.

RUNNING IN

- For the first 10 hours of operation, run the Multivator easily. Do not allow the Multivator to lug the tractor down. Check the temperature of the gearbox and chaincase units to ensure that they are not operating at

excessive heat levels. High temperatures can be an indication of a potential problem with a component, low oil levels, or possibly an assembly problem.

GROUND SPEED

- Ground speed is governed by power and soil conditions. Hard ground will require lower travel speeds to maintain smooth operation. Good ground conditions with reasonable moisture will allow speeds of 4-5 mph. Light ground conditions, shallow cultivation, or a second pass will allow travel speeds of 5-6 mph.

ENGINE RPM

- Try to operate at the rated engine speed to achieve 540 RPM PTO speed. Allowing the tractor to lug down continuously can result in damage to the tractor and the Multivator.

SOIL TILTH CONTROL

- Tilth is governed by forward speed and engine RPM. Slower forward speeds will give the finest possible finish. Higher forward speeds will give a cloddier or rougher finish.

HEADLAND PROCEDURE

- Each time the headland is reached, lift the machine clear of the ground (6" to 8" maximum). With the blades rotating, turn the tractor for the next pass, and slowly lower the machine into the ground.

DO NOT TURN THE TRACTOR WITH THE MULTIVATOR IN THE GROUND!

WORKING LIMITATIONS

- It is very important that the Multivator be used in conditions that will not obviously damage the machine. The Multivator has the ability to handle small stones and other obstacles by "walking over" these obstacles and kicking them out behind the machine. The forward rotating blades, and free floating heads, allow for this action to occur.
- Extremely rugged conditions will cause excessive wear and tear on blades, shielding, and working components of the machine, requiring more operator maintenance.
- If the blades do not penetrate the soil easily, and you cannot obtain more than 1" depth on a first pass with wheels clear of the ground, conditions may be too dry and hard. Continued use of the Multivator in

such conditions will cause excessive wear on the drive train and will void any warranty consideration.

- If considerable vibration, jumping, and shock loading is apparent, then the conditions are not suitable to work in.
- If these conditions are unavoidable, then please adhere to the following guidelines:
  - Try to irrigate, or wait until adequate soil moisture is present
  - Use another tillage tool, such as a chisel shank or V-ripper, to relieve compaction before using the Multivator
  - Relieve spring tension on the tiller heads to allow them to float more easily over obstacles
  - Fit a safety clutch to the PTO drive line
  - Increase the frequency of machine inspections during operation
  - Be attentive to the machine and any potential problems, particularly loose blade bolts, broken blades, and high fluid temperatures in the gearbox and chaincases

ABRASIVE SOILS

- Use in very abrasive soils will significantly reduce blade life. These soils are sandy or gravelly in nature.
- Additional care should be taken to inspect the chaincase skid at regular intervals. The chaincase skid provides important protection to the chaincase, as well as eliminating the center untilled strip. The chaincase skid must be replaced when it is worn out.
- Optional chaincase wearing shoes are available from the manufacturer. These wearing shoes bolt to the underside of the chaincase and provide an additional wearing surface. They may provide additional protection in very abrasive conditions.

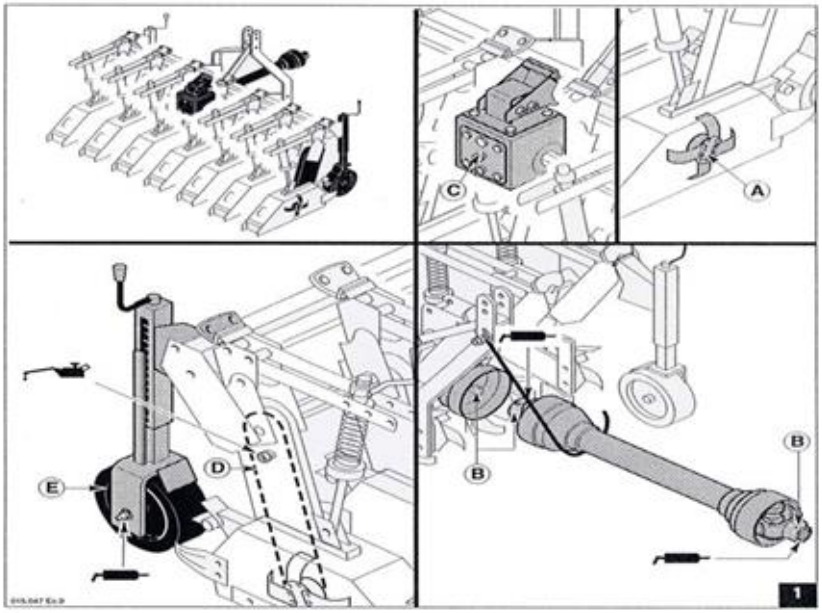
HEAVY TRASH CONDITIONS

- In very tall weed growth, tough grass tilling, corn residue, stalky or vine type weeds, care should be taken to avoid excessive weed wrap on the blades and rotors. After using the Multivator, clean any residue from the tilling blades, particularly between the inner blade flanges and the chaincase.
- If trash buildup is occurring on the shields, reposition the shields so they are angled down in the back and up in the front. This is accomplished by repositioning the brackets to which the shields are mounted.

- **If trash buildup is occurring on the center sweep, it may be necessary to remove the “wings” from the center sweep with a torch. The center sweep will then slice through the soil and trash. However, it should be remembered that removing the wings from the center sweep will reduce the effectiveness of the sweep for weed removal.**

Multivator

MAINTENANCE



Legend:
oil
grease

After initial running period, (approximately 25 hours) drain the gearbox oil and replace. Some discoloration of the oil is normal.

On a monthly basis check the oil level in all chaincases. Remove fill plug to access oil level. Refill all that are necessary with SAE90 gear oil.

DAILY	
Blades (A)	Check for loose bolts and retighten.
Blade bolts, rotor bolts, flange bolts, shield bolts, clamp plate nuts	Check for loose bolts and retighten.
PTO universal joint bearings (B)	Grease universal joints and sliding sections of PTO shaft with quality grease.
Wheel bearings (E)	Grease with quality grease.

WEEKLY	
Gearbox (C)	Check oil level. Refill if necessary with SAE140EP.
PTO shaft	Clean shaft and check bearings.
Complete Machine	Clean machine for thorough inspection. Check all miscellaneous bolts and nuts to ensure tightness.
Chaincase	Check wearing skids and replace any worn skids as necessary.

CHAIN ADJUSTMENT

- **On models FP, FPA, and FPXA an automatic chain tensioner is supplied which eliminates the need for manual chain adjustment.**

CHAINCASE LUBRICATION

- **Each chaincase is supplied fully lubricated. Over time, lubricant will need to be replaced, and periodically the chaincase may need to be completely flushed and refilled.**
- **Adding lubricant is done through the breather – fill plug located on the side of the chaincase. Chaincases should be filled approximately 1/3 full with good quality SAE90 gear oil. If too much oil is added to the chaincase you will notice oil escaping from the breather plug in a fine mist.**
- **Another method of lubricating the chaincase is to pack the case completely with grease. This can be done when renovating old chaincases with worn components, as the grease helps to seal the chaincase from dirt.**

ROTOR MAINTENANCE

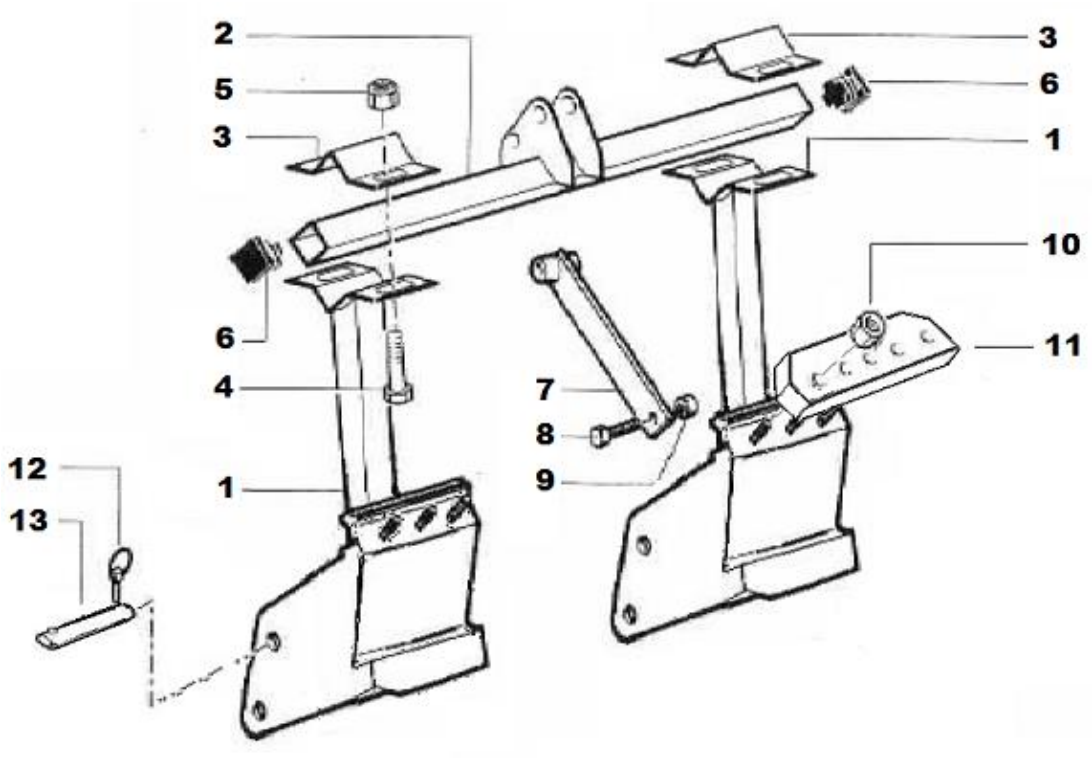
- **Remove flanges and draw bolt(s) on a yearly basis, preferably before the initial use for the season. Remove all foreign debris that has accumulated on flanges, blades, rotor, and dust covers. Inspect all flanges, draw bolts, metal dust covers, and oil seals. Replace any and all items with excessive wear. Be sure that oil seals are intact and not leaking chaincase oil.**

Multivator

TROUBLESHOOTING

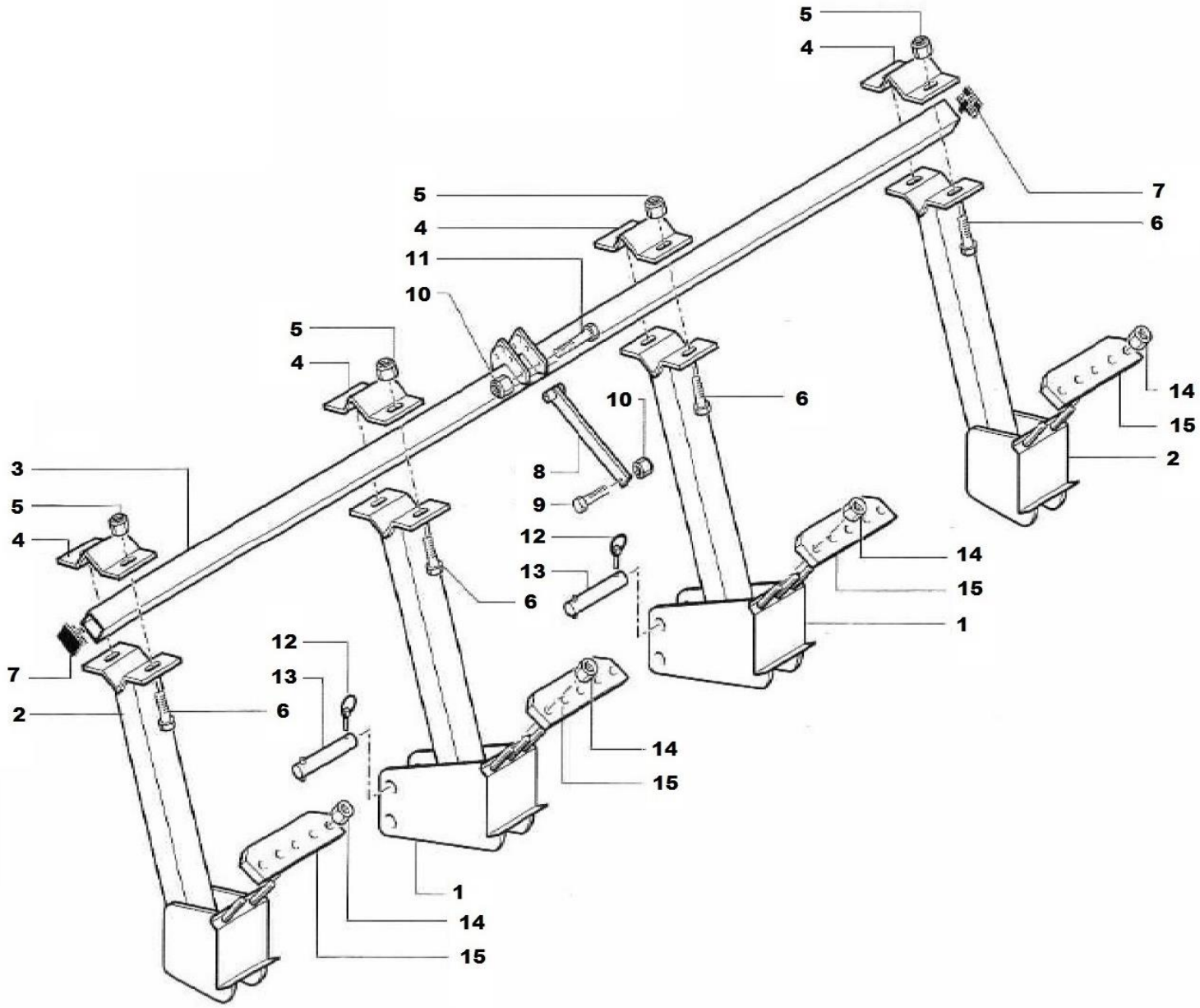
PROBLEM	DIAGNOSIS
PTO shaft vibrates or chatters	Check for worn cross and bearing kits. Pay attention to lift height when machine is in use. Lifting machine too high puts the PTO at angles causing premature wear.
Gearbox noise is noticeable or constant.	Check oil level in gearbox. Make sure nothing is obstructing moving components tied to gearbox.
Intermittent clicking noise from rotors, chaincase or gearbox.	Check for loose blades. If noise persists check gearbox for damage to pinion gear or ring gear teeth. Clicking noises inside chaincase can indicate a worn chain skid. Replace as necessary.
Slapping noise from chaincase	Chain is too loose. If chain is worn it should be replaced or shortened if possible.
Hex drive shaft is rotating but blades are not.	This indicates a broken chain link inside the chaincase, broken or rounded off draw bolt.
Burning smell, or signs of excessive heat	Usually caused by rotors which are not turning freely. Check for trash wrapped around rotor, especially between inner rotor and dust cover.
Blades won't penetrate average soil conditions	Check that blades are installed correctly. Blades or complete flange may have been installed backwards
Machine skips or does not cut all weed residue.	Check for worn blades. If blades are worn down to a sharp point, overlap will be lost and cutting ability will deteriorate. Replace worn blades
Burning smell, or signs of excessive heat	Check for bent flanges or a bent draw bolt.

No	Part Number	Qty	Description
1	M420610060	2	Center Upright
2	M420610074	1	3-point Mini Top Tube
3	M350770012	2	Tube Clamp Plate
4	M103150128	4	Bolt M16 x 55 Plated
5	M103040072	4	M16 Locknut
6	M103120007	2	Tube Plug
7	M420680015	1	Tie Rod for Hitch
8	M103150098	1	Bolt M14 x 35 Plated
9	M103040070	1	M14 Locknut
10	M103040034	6	Nut M16 x 2.00
11	M330770006	2	5 Hole Clamp Plate
12	M101070002	2	Lynch Pin
13	M310560015	2	Hitch Pin Cat I



FP 3-POINT HOOK UP

90" FRAMES AND NARROWER



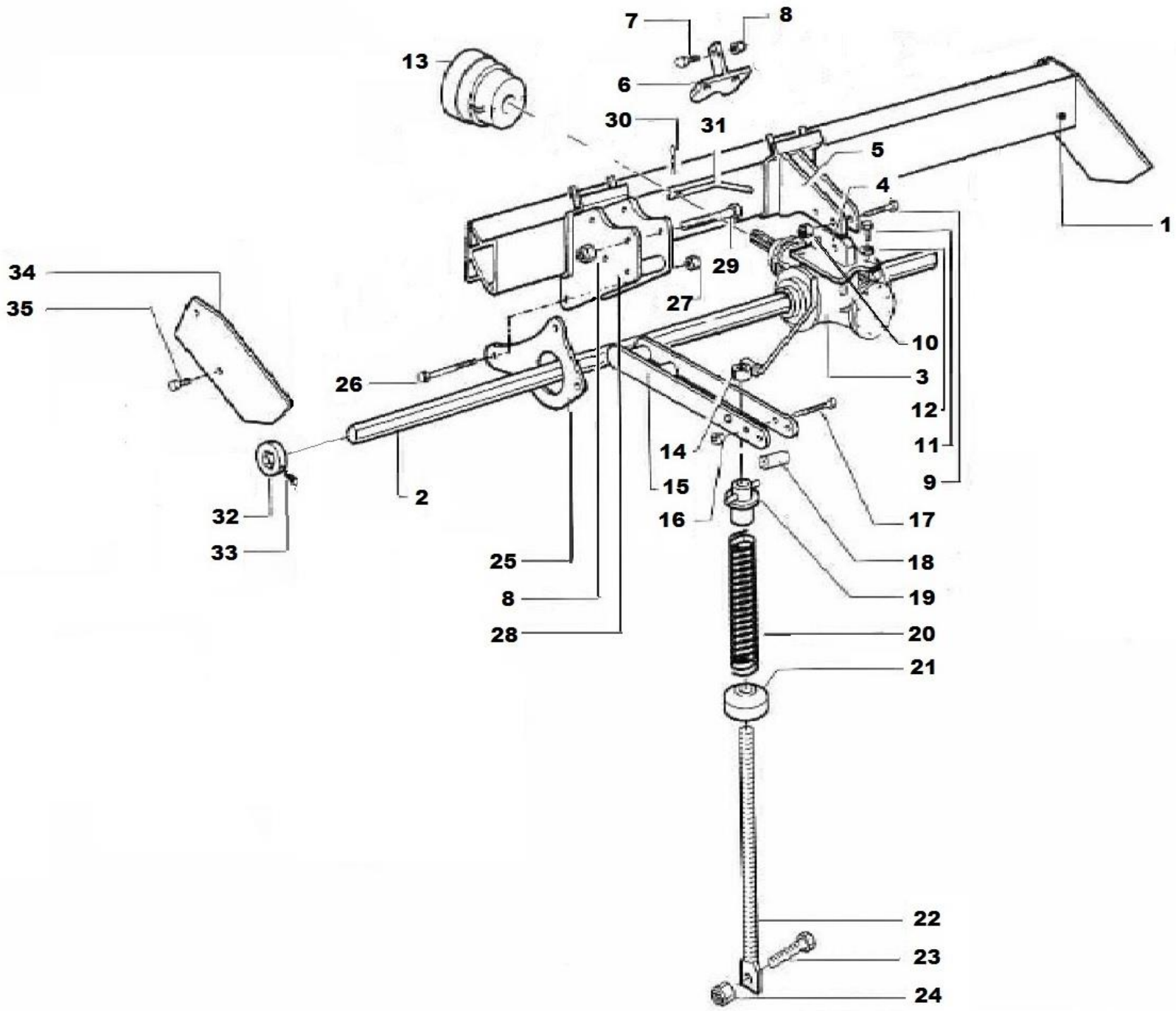
FP 3-POINT HOOK UP

132" FRAMES AND WIDER

FP 3-POINT HOOK UP

132” FRAMES AND WIDER

No	Part Number	Qty	Description	
1	M420610060.01	2	Reinforced Center Upright	*See picture below for details
2	M420610059	2	Outer Upright	
3	M420610061	1	3-Point Wide Top Tube	
4	M350770012	4	Tube Clamp Plate	
5	M103040072	8	M16 Locknut	
6	M103150128	8	Bolt M16 x 55 Plated	
7	M103120007	2	Tube Plug	
8*	M420680015	1	Tie Rod for Hitch	132” Frame
	M420680046	1	Reinforced Tie Rod for Hitch	180” – 192” Frame
9	M103150098	1	Bolt M14 x 35 Plated	
10	M103040070	2	M14 Locknut	
11	M103150109	1	Bolt M14 x 100 Plated	
12	M101070002	2	Lynch Pin	
13	M320560016	2	Hitch Pin Cat II	
14	M103040034	10	Nut M16 x 2.00	
15	M330770006	2	5 Hole Clamp Plate	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FP FRAME

FP FRAME

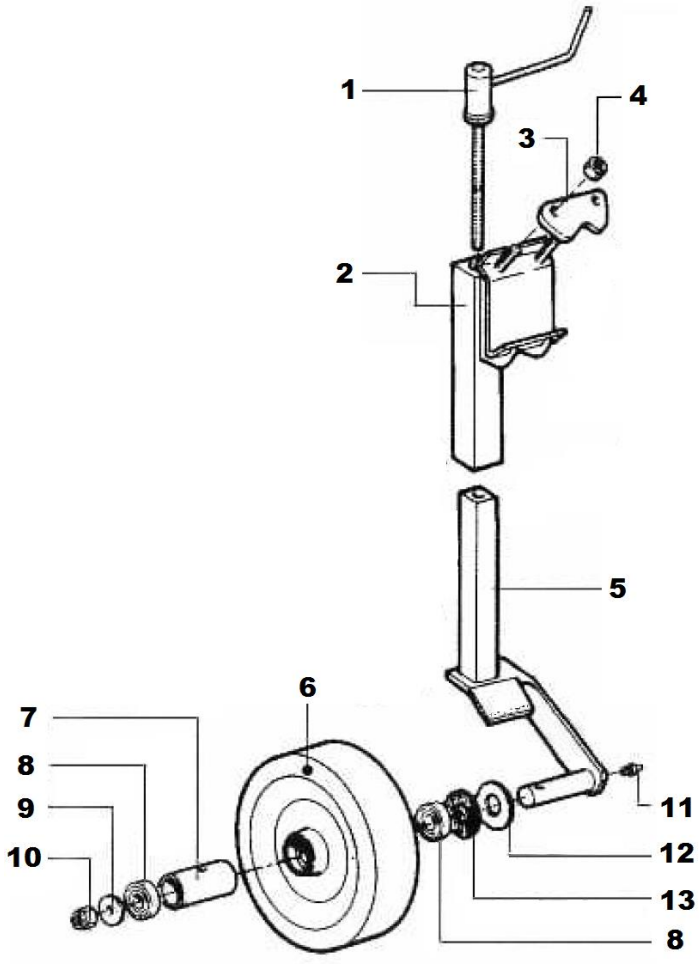
No	Part Number	Qty	Description
1	M420650009	1	66” Toolbar
	M420650011	1	90” Toolbar
	M420650128	(1)	90” Reinforced Toolbar (optional)
	M420650015	1	132” Toolbar
	M420650130	1	180” Toolbar
	M420650131	1	192” Toolbar
2	M320080019	1	66”; 41mm Hex Bar
	M320080021	1	90”; 41mm Hex Bar
	M320080023	1	132”; 41mm Hex Bar
	M320080025	1	180”; 41mm Hex Bar
	M320080038	1	192”; 41mm Hex Bar
3	M112050042	1	FP 41mm 540 RPM Gearbox; TB278C
4	M420610024	1	Lower Support Bracket
5	M420610007	1	Upper Gearbox Support Bracket
6	M420600002	1	T-Clamp Plate
7	M103150098	1	Bolt M14 x 35 Plated
8	M103040070	1 + X	M14 Locknut
9	M103150081	2	Bolt M12 x 60 Plated
10	M103040068	2	M12 Locknut
11	M103150120	4	Bolt M16 x 25 Plated
12	M103100040	4	M16 Shakeproof Washer
13	M101010002	1	PTO Guard at Gearbox
14	M520130002	X	Handle With Nut
15	M420090002	X	Support Arm
16	M103040014	X	M10 Nut
17	M103150055	X	Bolt M10 x 90 Plated
18	M320210006	X	Spacer
19	M420490002	X	Spring Guide
20	M320470002	X	Spring Coil
21	M420120002	X	Spring Collar
22	M320820004	X	Threaded Rod / FP
	M320820005	X	Threaded Rod / FPA
	M320820009	X	Threaded Rod / FPXA
23	M103150044	X	Bolt M10 x 30 Plated
24	M103040066	X	M10 Locknut
25	M320570022	X	Chaincase Mounting Plate
26	M103150135	X	Bolt M16 x 140 Plated
27	M103040034	X	M16 Nut x 2.00
28	M420040002	X	Head Stock
29	M103150112	X	Bolt M14 x 110
30	M101020002	X	Pin Clip
31	M320410002	X	Pin
32	M320020003	2	Locking Ring 41mm
33	M103150034	2	Bolt M10 x 20
34	M320620006	2	Guard Plate
35	M103150066	4	Bolt M12 x 20 Plated

M520120025
Gearbox Mounting Kit

M520210011
FP Gearbox with mounting kit

“X” is equal to the number of heads on the toolbar. So if there are 2 heads then X=2

No	Part Number	Qty	Description	
1	M500130004	1	Screw with handle	
2	M420610001	1	Upper Support	FP
	M420610030	1	Upper Support	FPA-FPXA
3	M320770004	1	Clamp Plate	
4	M103040034	2	Nut M16 x 2.00	
5	M420610011	1	Lower Support	FP
	M420610012	1	Lower Support	FPA-FPXA
6	M101050012	1	Wheel 320 x 90	
7	M320210007	1	Spacer	
8	M104010002	2	Bearing 6205Z	
9	M320670005	1	Washer	
10	M103040072	1	Locknut M16	
11	M103090002	1	Zerk M8 x 1	
12	M109010004	1	Washer	
13	M109020004	1	Seal Felt	



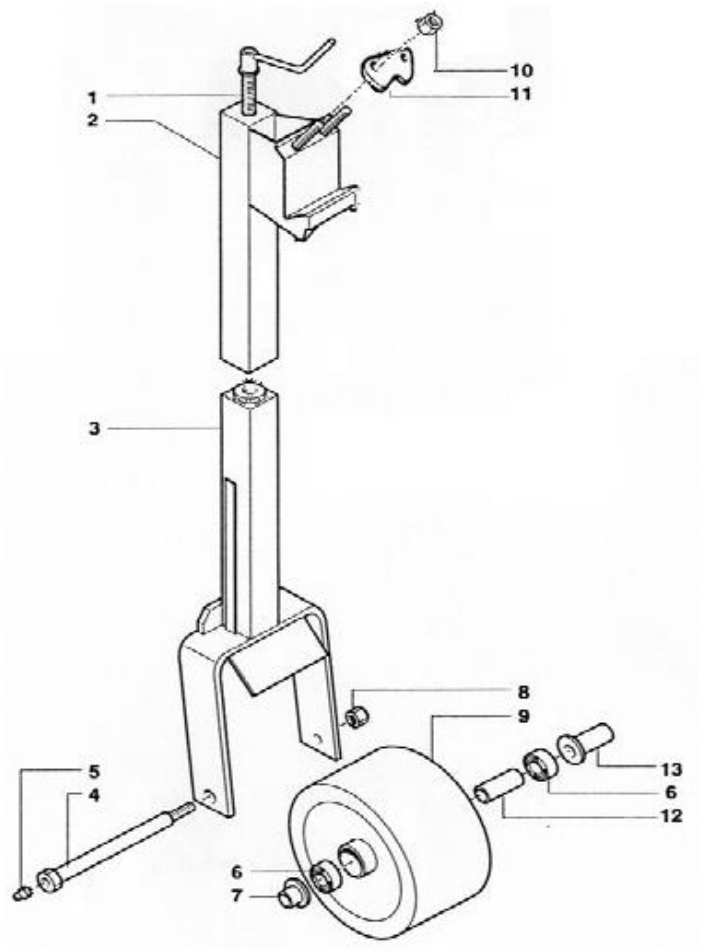
FP – FPA – FPXA

132” FRAMES AND NARROWER

M520250006 – FP

M520250007 – FPA – FPXA

No	Part Number	Qty	Description
1	M500130004	1	Screw with handle
2	M420610086	1	Upper Support
3	M420610088	1	Lower Support
4	M320560030	1	Axle
5	M103090002	1	Grease Zerk
6	M104010002	2	Bearing 6205Z
7	M420220010	1	Spacer
8	M103040072	1	Locknut M16
9	M420520002	1	Steel Tire (HD)
10	M103040034	2	Nut M16
11	M320770004	1	Clamp plate
12	M320210007	1	Spacer
13	M420220009	1	Spacer

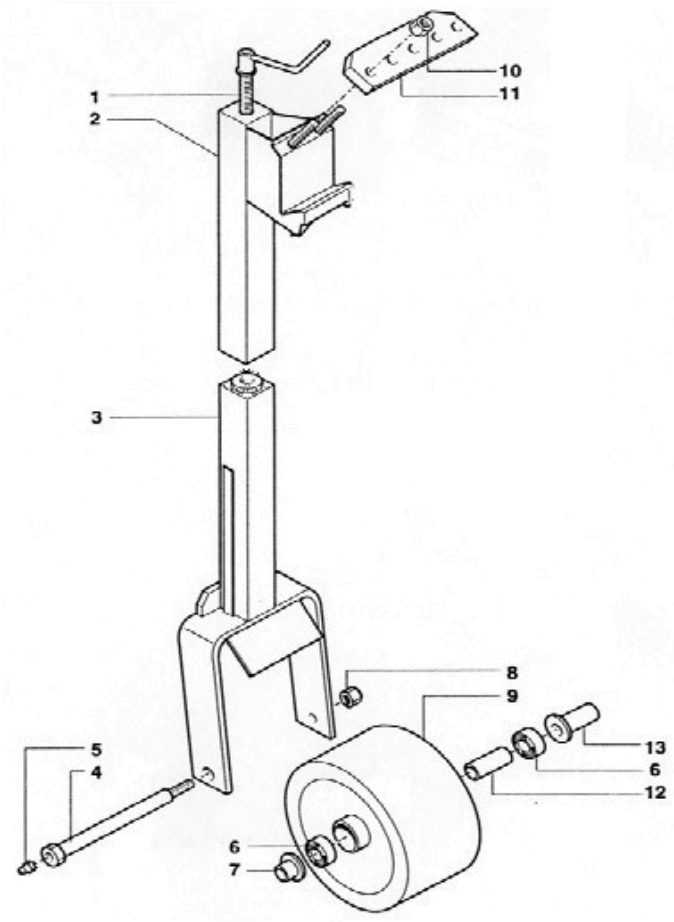


FP

180” FRAMES AND WIDER

M520250014

No	Part Number	Qty	Description
1	M520130005	1	Screw with handle
2	M420610087	1	Upper support
3	M420610089	1	Lower support
4	M320560030	1	Axle
5	M103090002	1	Grease zerk
6	M104010002	2	Bearing 6205Z
7	M420220010	1	Spacer
8	M103040072	1	Locknut M16
9	M420520002	1	Steel Tire (HD)
10	M103040034	2	Nut M16
11	M330770006	1	5 Hole Clamp plate
12	M320210007	1	Spacer
13	M420220009	1	Spacer



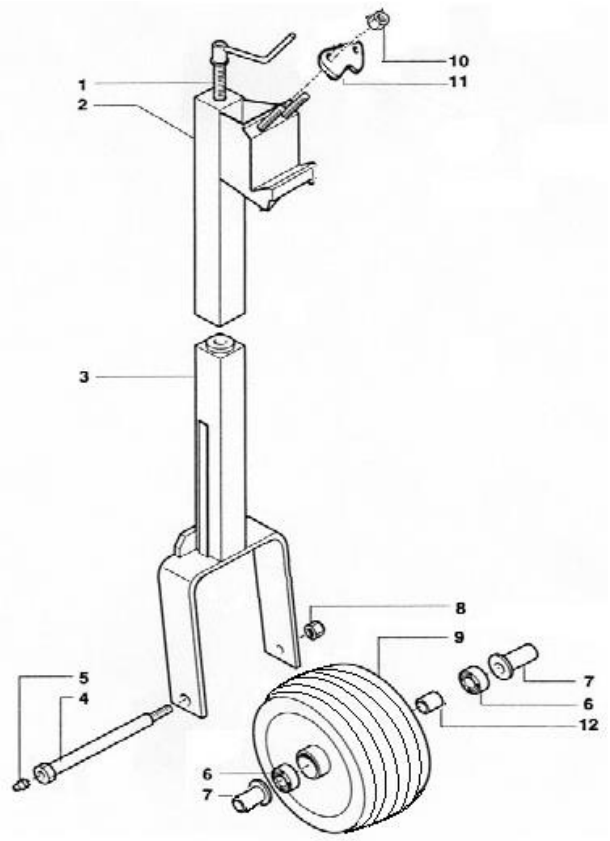
FPA – FPXA

180” FRAMES AND WIDER

M520250015

No	Part Number	Qty	Description
1	M500130004	1	Screw with handle FP
	M520130005	1	Screw with handle FPA / FPXA
2	M420610086	1	Upper Support FP
	M420610087	1	Upper Support FPA / FPXA
3	M420610088.01	1	Lower Support FP
	M420610088.02	1	Lower Support FPA / FPXA
4	M320560030	1	Axle
5	M103090002	1	Grease zerk
6	S600602	2	Bearing 6205-RS
7	M420220009	2	Spacer
8	M103040072	1	Locknut M16
9	M101050013	1	Rubber Tire
10	M103040034	2	Nut M16
11	M320770004	1	2 Hole Clamp Plate FP
	M330770006*	1	5 Hole Clamp Plate FPA / FPXA
12	S200415	1	Spacer

*NOT SHOWN

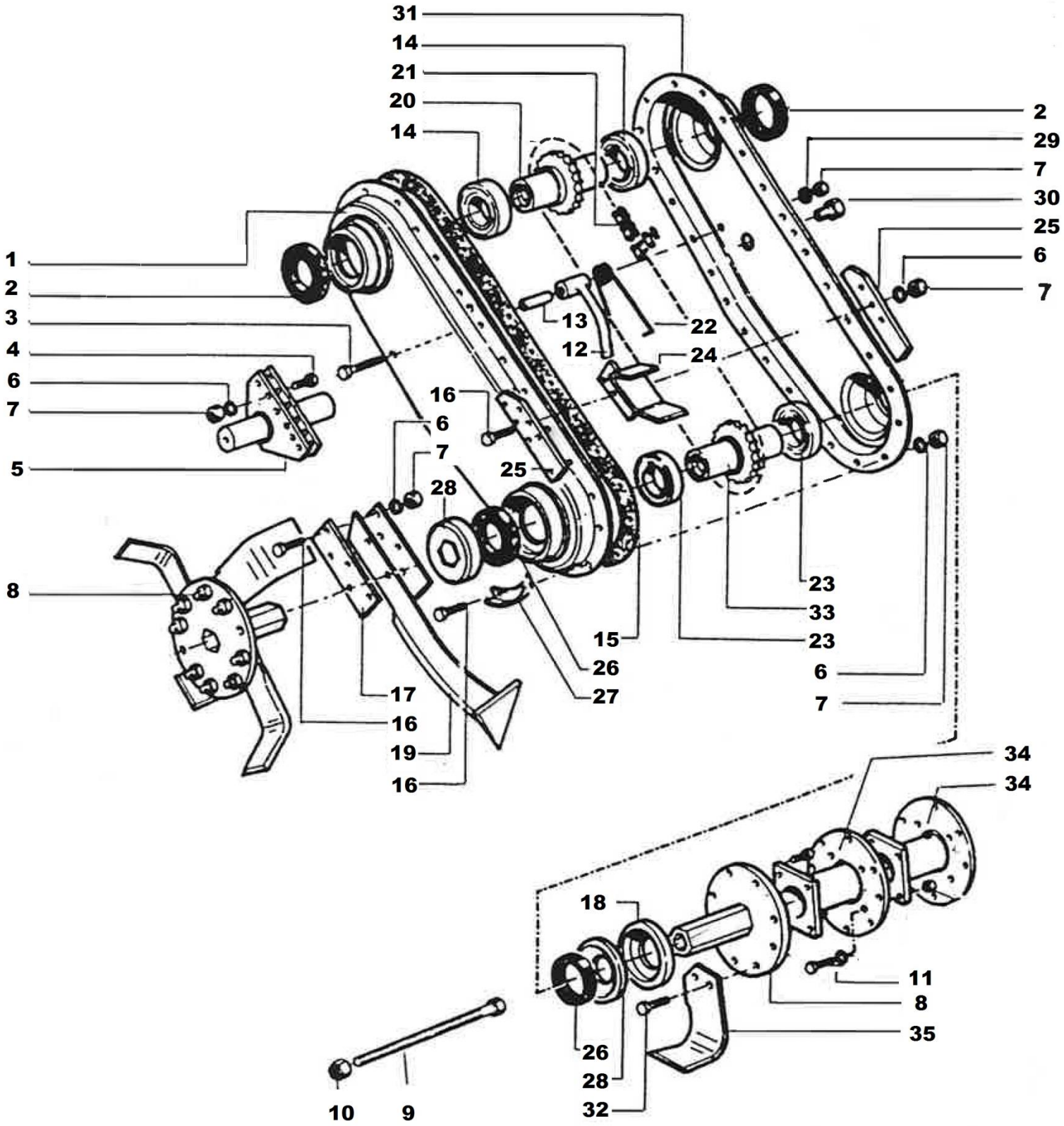


FP – FPA – FPXA PNEUMATIC

ALL FRAME WIDTHS

M520250014.01 – FP

M520250014.02 – FPA – FPXA



FP CHAINCASE ASSEMBLY

FP CHAINCASE ASSEMBLY

No	Part Number	Qty	Description
1	M420554005	1	Chaincase Half; Left / FP
	M420554006	1	Chaincase Half; Left / FPA
	M420554007	1	Chaincase Half; Left / FPXA
2	M109040010	2	Oilseal 80 x 55 x 10
3	M103140034	1	Bolt M8 x 70
4	M103140026	10	Bolt M8 x 30
5	M420610008	1	Front Shield Support / FP
	M420610034	1	Front Shield Support / FPA / FPXA
6	M103100020	20	Lock Washer M8
7	M103040064	23	Locknut M8
8	M420370003	1	Drive Flange for FP Heads 9”-11”
	M420370004	1	Drive Flange for Standard FP Heads
9	M420680002	1	Rotor Drawbolt for 9”-11” FP Heads
	M420680001	1	Rotor Drawbolt for Standard FP Heads
10	M103040078	1	Locknut M20 x 1.5
11	M111558	4 * X	Flange Bolt Assembly
12	M420660004	1	Chainskid Tensioner FP
	M420660005	1	Chainskid Tensioner FPA / FPXA
13	M320090009	1	Chainskid Bushing
14	M104010014	2	Bearing 6011
15	M320330003	1	Chaincase Gasket FP
	M320330004	1	Chaincase Gasket FPA
	M320330005	1	Chaincase Gasket FPXA
16	M103140026	8	Bolt M8 x 30
17	M320580001	2	Depthskid Plate
18	M320210027	2	Rotor Spacer
19	M420590002	1	Depth Skid FP
20	M320600005	1	Top Sprocket 41mm
21	M112020018.01	1	Chain 1" X 52 Pitch
	M112020020.01	1	Chain 1" X 64 Pitch
	M112020020.01	1	Chain 1" X 74 Pitch
22	M320470008	1	Spring for Chainskid Tensioner
23	M104010010	2	Bearing 6201
24	M420030002	1	Rear Shield Support FP
25	M320580002	1	Plate for Rear Shield Support

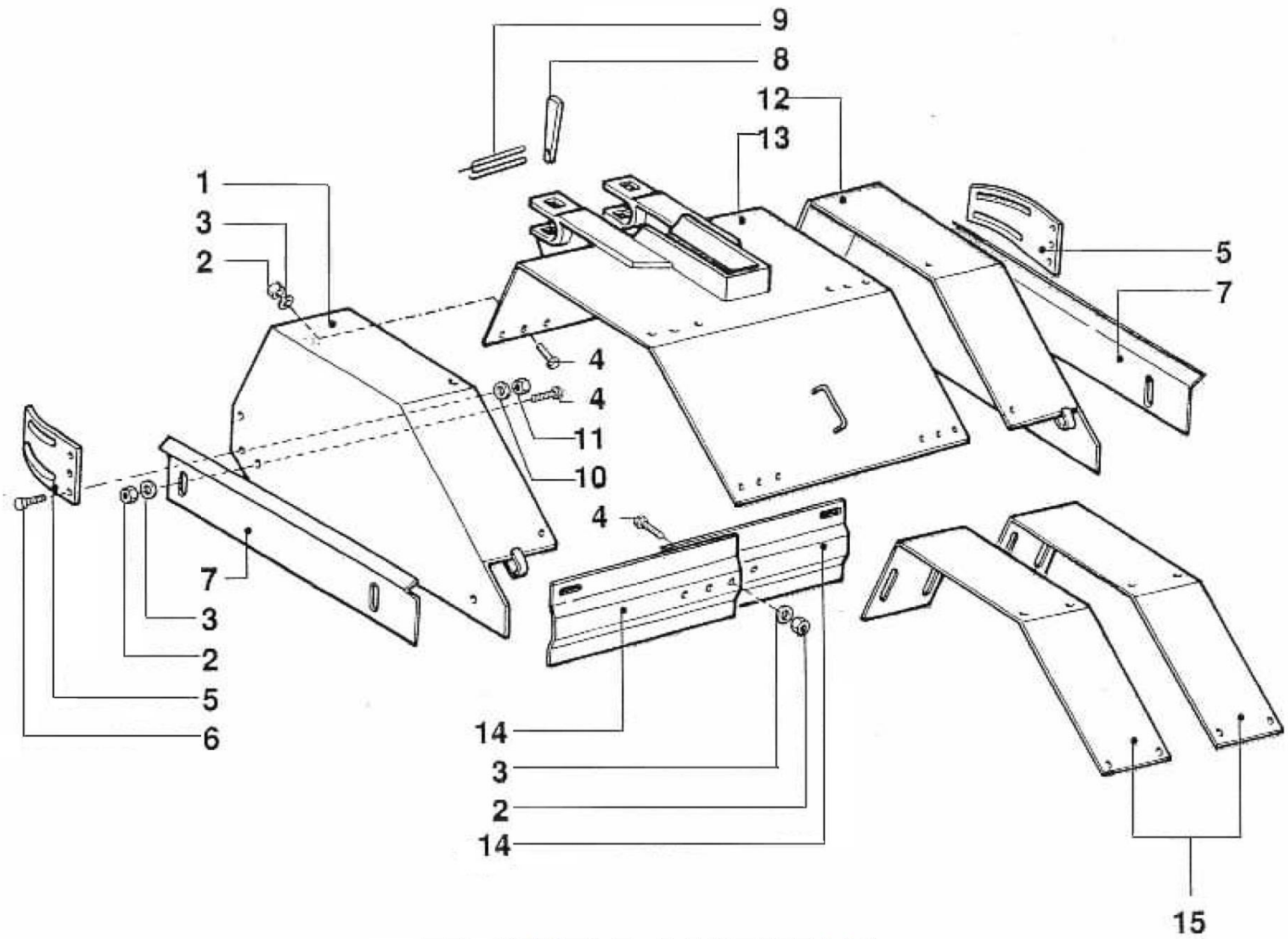
No	Part Number	Qty	Description
26	M109040008	2	Oilseal 80 x 50 x 1
27	M320620050	2	Chaincase Skid Protector
28	M320550003	2	Rotor Dust Cover FP
29	M103100006	1	Washer M8 Plated
30	M320800001	1	Fill Plug / Breather
31	M420552005	1	Chaincase Half; Right / FP
	M420552006	1	Chaincase Half; Right / FPA
	M420552007	1	Chaincase Half; Right / FPXA
32	M111604	16 + (8 * X)	Blade Bolt Assembly
33	M320600004	1	Bottom Sprocket 36mm
34	M420220002	X	Outer Flange 4” Standard FP
	M420220001	X	Outer Flange 3” (Optional)
35	M111183-R	4 + (2 * X)	Standard FP Blade Right Hand
	M111183-L	4 + (2 * X)	Standard FP Blade Left Hand
	M111241-R	Long FP Blade Right Hand (Optional)	
	M111241-L	Long FP Blade Left Hand (Optional)	

M520040006	Drive Case Assembly FP
M520040009	Drive Case Assembly FPA
M520040010	Drive Case Assembly FPXA

Head Assemblies with Shields and Blades

9”-11”	M520070117	FP Head Assembly with Shields and Blades
	M520070199	FPA Head Assembly with Shields and Blades
12”-16”	M520070118	FP Head Assembly with Shields and Blades
	M520070200	FPA Head Assembly with Shields and Blades
	M520070123	FPXA Head Assembly with Shields and Blades
18”-22”	M520070119	FP Head Assembly with Shields and Blades
	M520070201	FPA Head Assembly with Shields and Blades
	M520070124	FPXA Head Assembly with Shields and Blades
24”-32”	M520070121	FP Head Assembly with Shields and Blades
	M520070203	FPA Head Assembly with Shields and Blades
	M520070126	FPXA Head Assembly with Shields and Blades

“X” is equal to the number of Outer Flanges (M420220002). So with one outer flange on either side, X = 2.

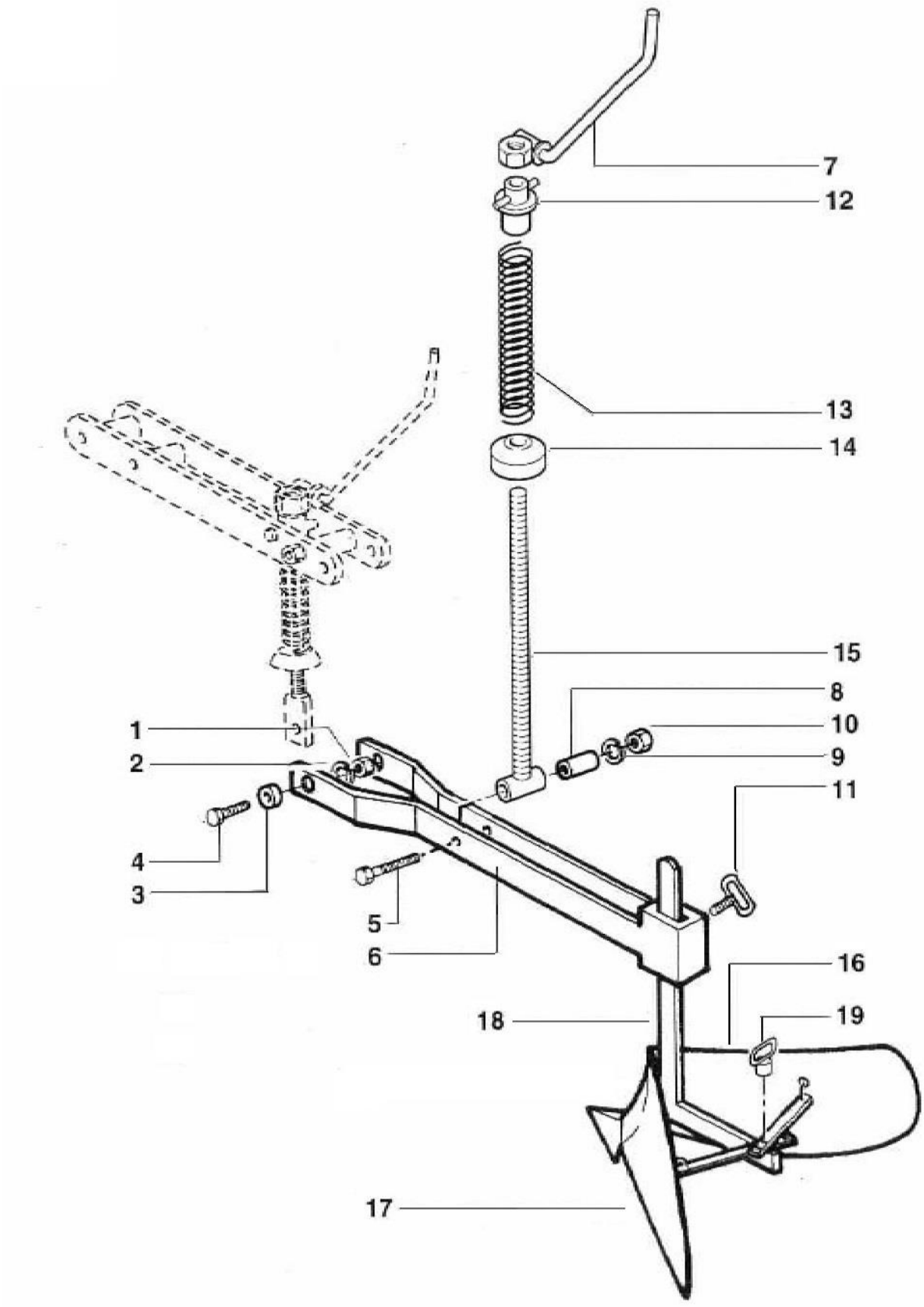


FP SHIELD ASSEMBLY

FP SHIELD ASSEMBLY

No	Part Number	Qty	Description	
1	M520164004	1	Left Narrow Side Shield Assembly (2.5” Wide)	Includes Side Shield Protector, Plant Guard, and hardware
	M520164005	1	Left Medium Side Shield Assembly (4.5” Wide)	
	M520164006	1	Left Wide Side Shield Assembly (6.5” Wide)	
2	M103040014	11	Nut M10	
3	M103100008	11	Washer M10	
4	M103150034	11	Bolt M10 x 20 Plated	
5	M300620001	2	Plant Guard	
6	M103150005	4	Bolt M8 x 16 Plated	
7	M320620016	2	Side Shield Protector	
8	M300740001	2	Wedge Pin	
9	M300470018	2	Spring Wire Clip	
10	M103100006	4	Washer M8 Plated	
11	M103040008	4	Nut M8	
12	M520162004	1	Right Narrow Side Shield Assembly (2.5” Wide)	Includes Side Shield Protector, Plant Guard, and hardware
	M520162005	1	Right Medium Side Shield Assembly (4.5” Wide)	
	M520162006	1	Right Wide Side Shield Assembly (6.5” Wide)	
13	M420160004	1	Center Shield for 9”-11” Heads (7-¾” Wide)	
	M420160005	1	Center Shield for 12”-16” Heads (9-¾” Wide)	
	M420160006	1	Center Shield for 18”-22” Heads (15-¾” Wide)	
	M420160007	1	Center Shield for 24”-32” Heads (21-¾” Wide)	
14	M320624034	2	Half Trailing Board 9”-11” Heads (6-¼” Wide)	
	M320624036	2	Half Trailing Board 12”-16” Heads (8-¾” Wide)	
	M320624038	2	Half Trailing Board 18”-22” Heads (11-¾” Wide)	
	M320624040	2	Half Trailing Board 24”-32” Heads (16-⅝” Wide)	
15	M320070003	1	Extension Shield for Heads > 32”; (optional)	

M520050007	1	Shield Set Complete for 9”- 11” Heads	Contains everything above *except* for Extension Shields
M520050008	1	Shield Set Complete for 12”-16” Heads	
M520050009	1	Shield Set Complete for 18”-22” Heads	
M520050010	1	Shield Set Complete for 24”-32” Heads	



FP RIDGER ASSEMBLY

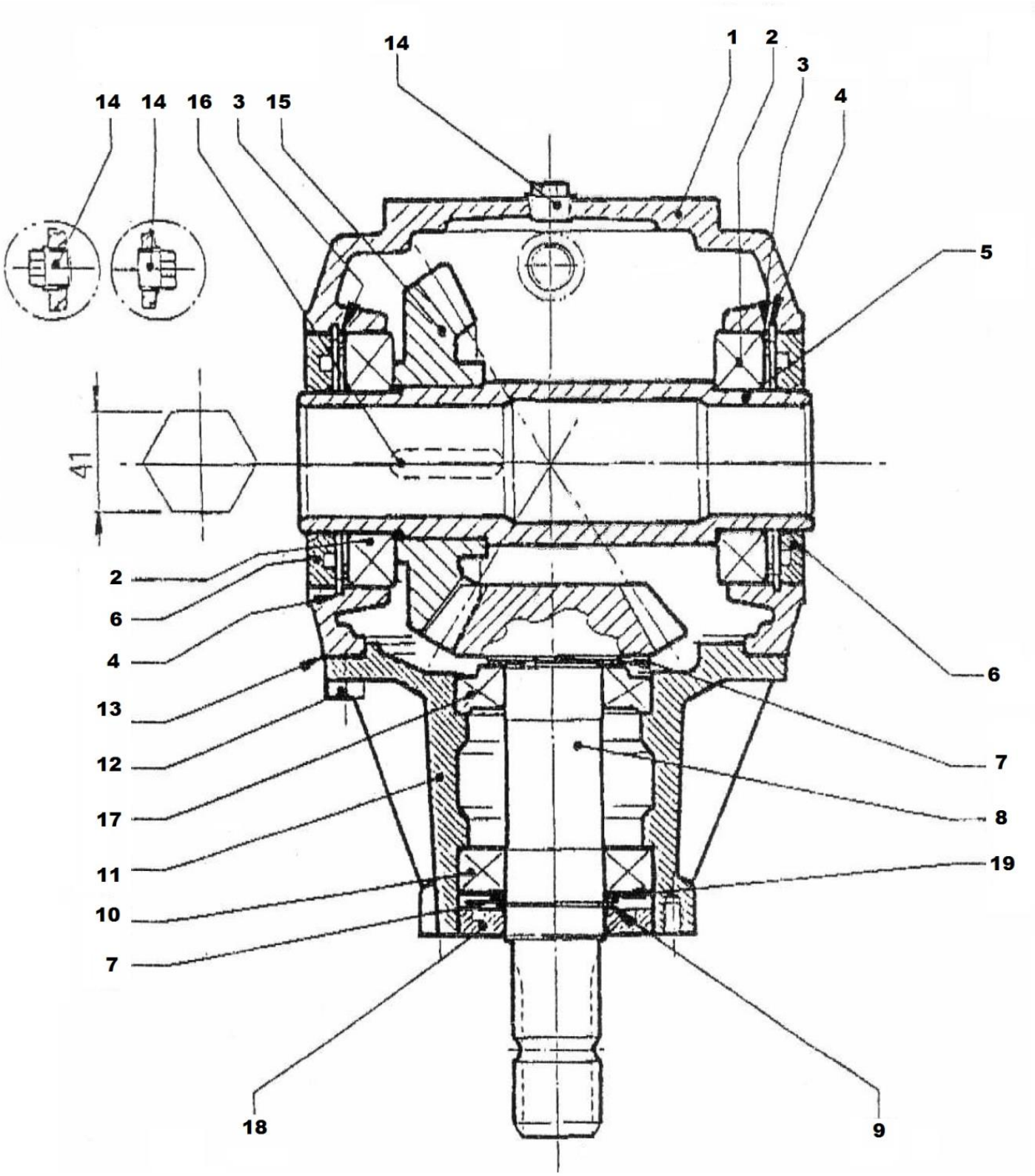
FP RIDGER ASSEMBLY

No	Part Number	Qty	Description
1	M103040022	2	Nut M10
2	M103100010	2	Washer M10
3	M330090002	2	Bushing
4	M103150072	2	Bolt M12 x 35 x 1.75 Plated
5	M103150090	1	Bolt M12 x 90 x 1.75 Plated
6	M440090006	1	Ridger Bracket Arm / FP
	M440090007	1	Ridger Bracket Arm / FPA
	M440090008	1	Ridger Bracket Arm / FPXA
7	M520130002	1	Handle with Nut
8	M320210012	1	Spacer
9	M103100010	1	Washer M12
10	M103040022	1	Nut M10
11	M440270001	1	Ridger Bolt
12	M420490002	1	Spring Guide / FP
13	M320470002	1	Spring Coil / FP
14	M420120002	1	Spring Collar / FP
15	M440680003	1	Threaded Rod / FP
	M440680004	1	Threaded Rod / FPA – FPXA
16	M430022001	1	Right Wing
17	M430024001	1	Left Wing
18	M440340001	1	Center Support
19	M440270002	1	Ridger Nut
	M330590001	1	Weld On Point
	M330030001	1	Weld on Wear Strip
	M330040026	2	Pin for Ridger Spade

Not Shown

M500230001
Ridger Spade

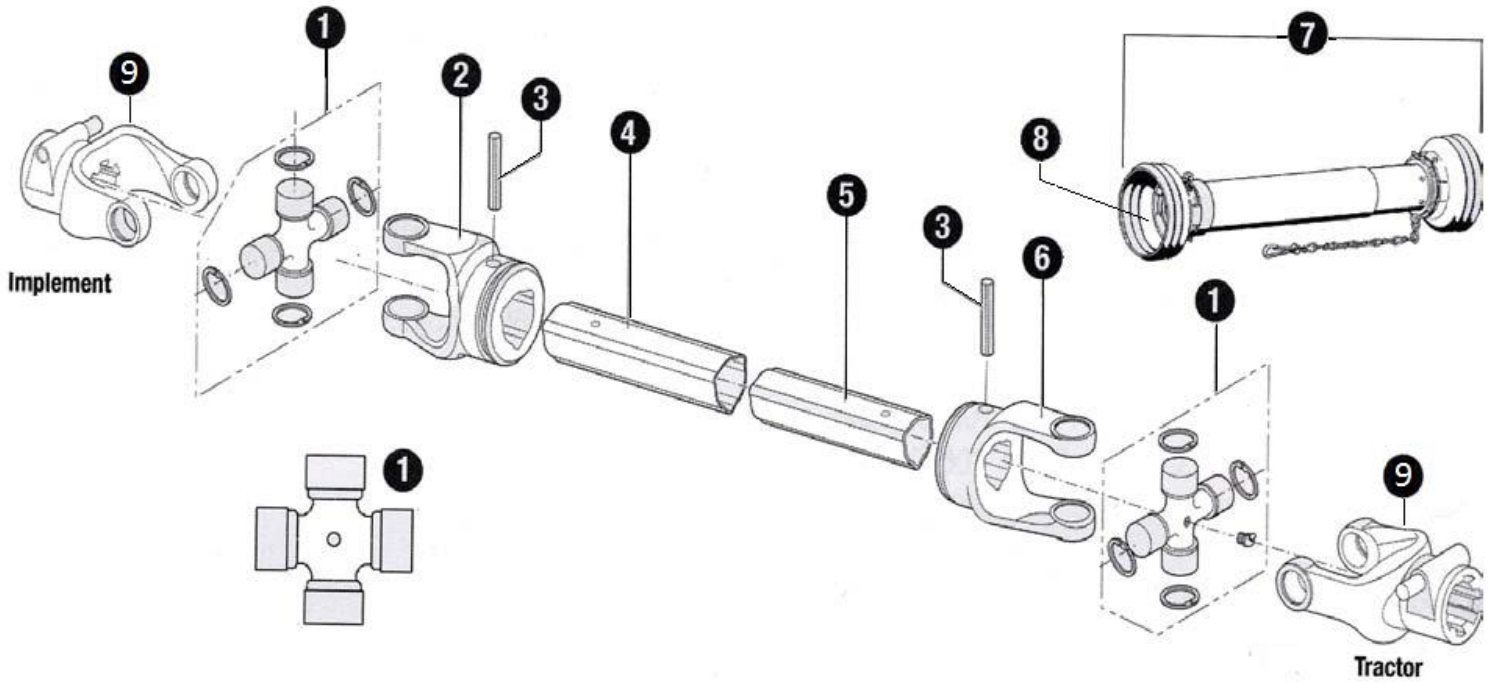
M540230005	Ridger Assembly / FP	Contains everything shown above
M540230006	Ridger Assembly / FPA	
M540230007	Ridger Assembly / FPXA	



FP GEARBOX

FP GEARBOX

No	Part Number	Qty	Description
1	M0278030100	1	Gear Case
2	M80100199	2	Bearing 6011
3	M07037500	2	Shim
4	M85200123	2	Internal Snapring 100mm
5	M02783004	1	Sleeve
6	M87101055	2	Oilseal 100 x 55 x 10
7	M0244750300	2	Shim
8	M02785000	1	Input Shaft
9	M85100029	1	Internal Snapring 40mm
10	M80100871	1	Bearing 6208
11	M02781300	1	Front Housing
12	M81100061	8	Bolt M10 x 25
13	M02487200	1	Front Cover Gasket
14	M86500006	3	⅜” Plug
15	M02786000	1	Crownwheel 28 Teeth
16	M84101134	1	Key 10 x 8 x 40
17	M80900024	1	Bearing 30208
18	M87300027	1	Oilseal 80 x 40 x 10



PTO SHAFT ASSEMBLY			
No	**Part Number**	**Qty**	**Description**
1	200-8692	2	Cross and bearing kit
2	700-6654	1	Yoke-outer tube
3	508-1040	2	Roll pin
4	600-6654	1	Outer tube
5	400-6545	1	Inner tube
6	300-6645	1	Yoke-inner tube
7	902-3548	1	Complete PTO guard
8	961-3567	1	Guard Bearing Kit
9	102-8606*	2	Yoke 540 RPM
	560-8606†	1	Slip Clutch†

14106654	PTO Assembly with Slip Clutch	Contains everything listed above

*Replaceable with 807-8606 (clamp yoke) for Implement end only
† Cannot order individual parts; Order entire clutch