

Multivator



FL

FLA



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.**



SAFETY PRECAUTIONS

- 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.**



SPECIFICATIONS

POWER RANGE

- **FL/FLA: 15-50 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.**
- **FL/FLA use 60H (12B) 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.**
 - o **In hard soil conditions, spring tension may be increased to provide more down pressure.**
 - o **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.**



SPECIFICATIONS

- **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

- **FL/FLA 368 RPM**

Blade Configuration FL/FLA



← 5 1/2" →

A + 1



← 7" →

A + 1



← 7" →

B + 2



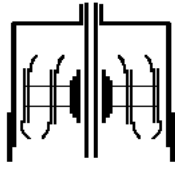
← 8 5/8" →

B + 2



← 11" →

B + 2



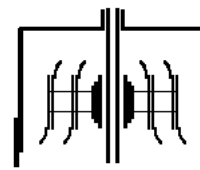
← 12" →

B + 3



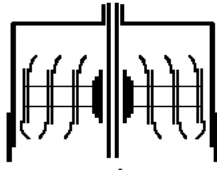
← 13 1/2" →

B + 3



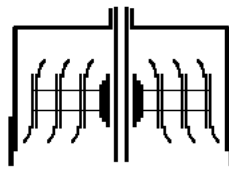
← 15" →

B + 3



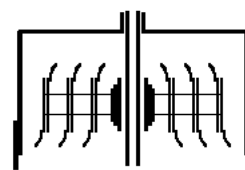
← 16 1/2" →

B + Z + 3



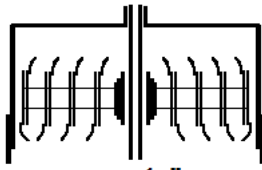
← 18" →

B + Z + 3



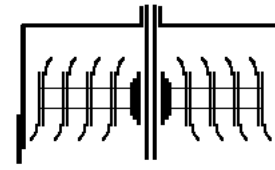
← 20" →

B + Z + 3



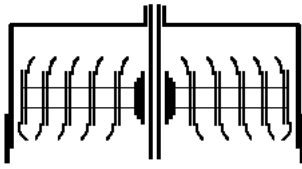
← 21 1/4" →

C + 3



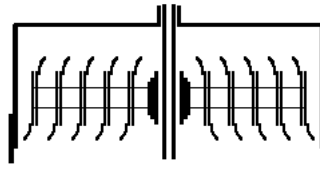
← 24" →

C + 3



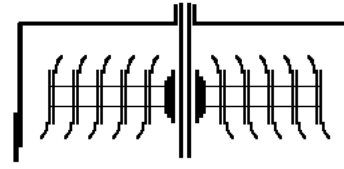
← 28" →

C + Z + 3



← 30" →

C + Z + 3



← 31 1/4" →

C + Z + 3



TECHINICAL INFORMATION

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.



Following are 2 techniques for measuring the correct length of PTO shaft:

- 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.**

PROCEDURE FOR CUTTING THE PTO SHAFT:

- 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 $\frac{3}{4}$ 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

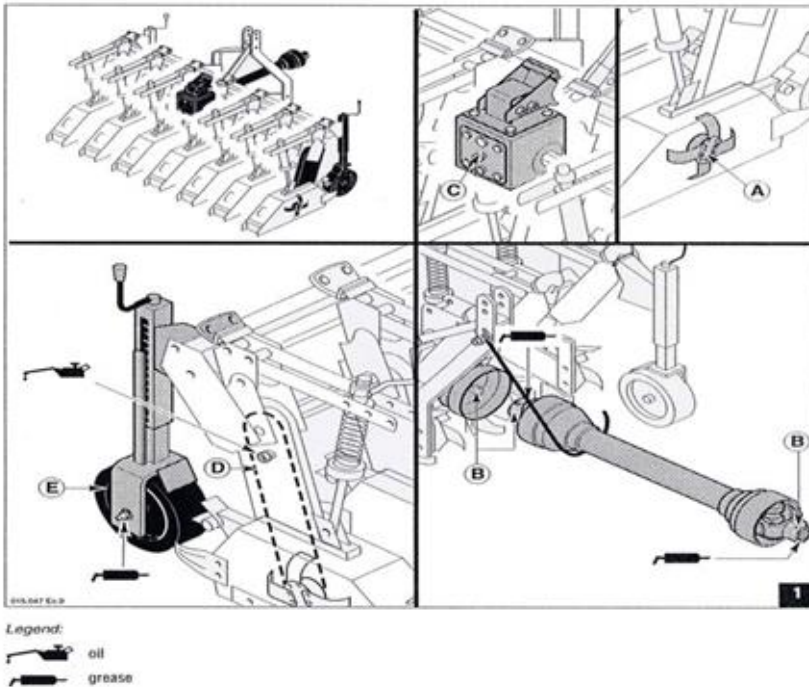
- In very tall weed growth, tough grass tilling, corn residue, stalky or vine type weeds, care should be taken to avoid excessive weed wrap on the blades and rotors. After using the Multivator, clean any residue from the tilling blades, particularly between the inner blade flanges and the chaincase.
- 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.



OPERATION

- **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.**

MAINTENANCE



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 FL and FLA, 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

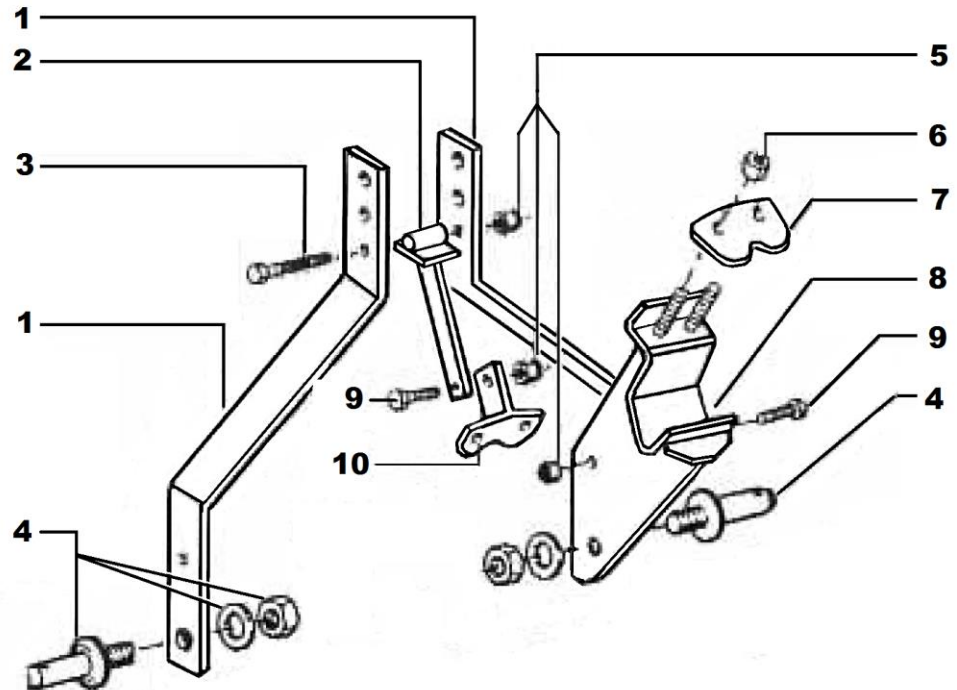
- **Remove flanges and draw bolt(s) on a yearly basis, preferably before the initial use for the season. Remove all foreign debris that has accumulated on flanges, blades, rotor, and dust covers. Inspect all flanges, draw bolts, metal dust covers, and oil seals. Replace any and all items with excessive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



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.

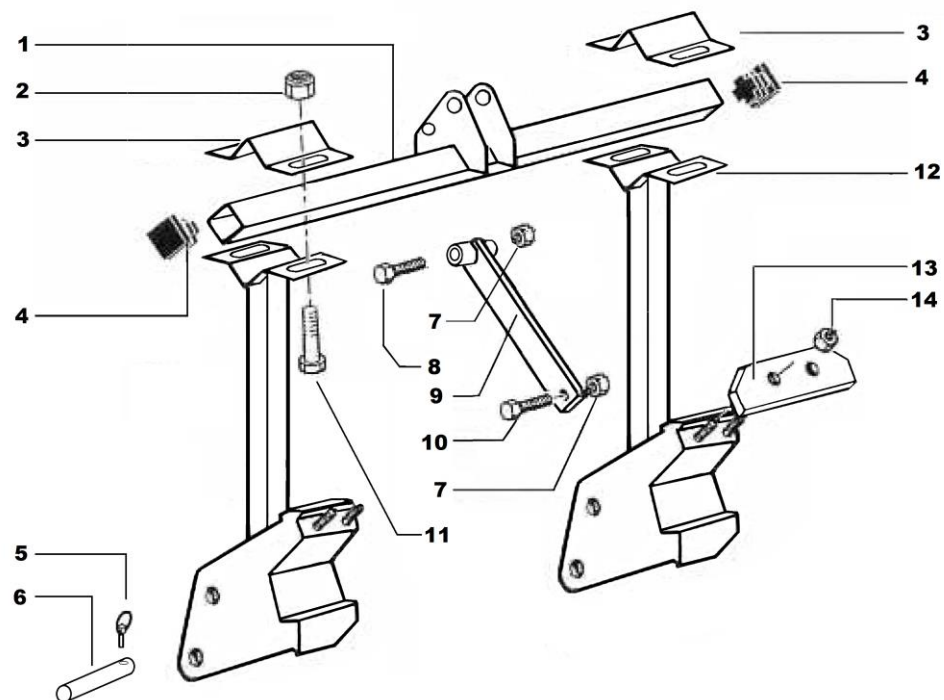
No	Part Number	Qty	Description
1	M310100006	2	Top Mast Arm
2	M410680009	1	Top Link
3	M103150109	1	Bolt M14 x 100
4	M101040002	2	Hitch Pin CAT I
5	M103040070	4	Locknut M14
6	M103040022	4	Nut M12
7	M310770001	4	Clamp Plate
8	M410610022	2	Hitch Bracket
9	M103150101	3	Bolt M14 x 45
10	M410600001	1	T Clamp Plate



FL – FLA 3-POINT HOOK UP (“A” FRAME)

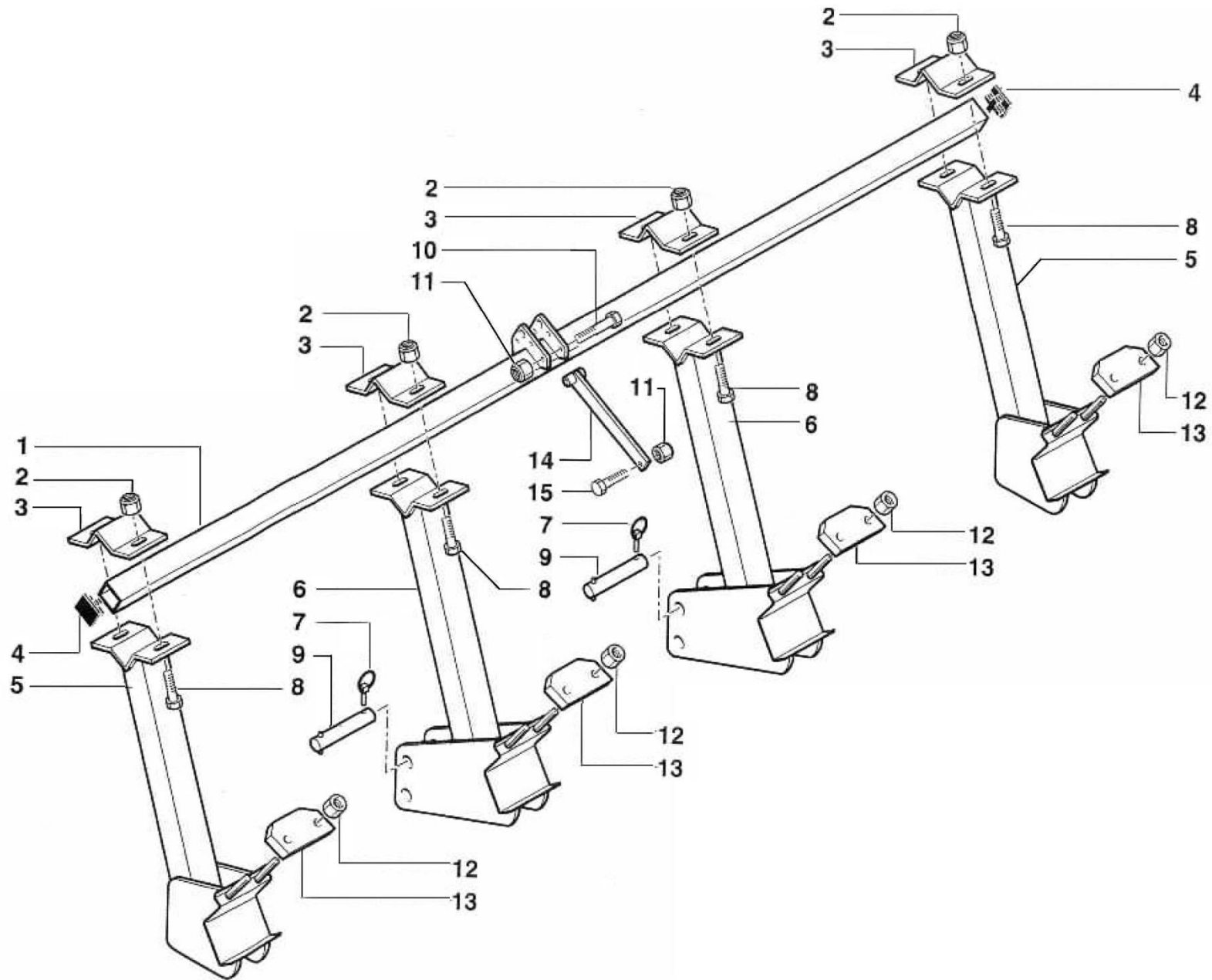
90” FRAMES AND NARROWER

No	Part Number	Qty	Description
1	M420610074	1	Top Tube
2	M103040072	4	Locknut M16
3	M350770012	2	Top Tube Clamp Plate
4	M103120007	2	Plug
5	M101070002	2	Lynch Pin
6	M310560015	2	Hitch Pin CAT I
7	M103040070	2	Locknut M14
8	M103150109	1	Bolt M14 x 100
9	M410680016	1	Tie Rod
10	M103150098	1	Bolt M14 x 35
11	M103150128	4	Bolt M16 x 55
12	M410610075	2	Center Upright
13	M310770002	2	Clamp Plate
14	M103040022	4	Nut M12



FL – FLA 3-POINT HOOKUP

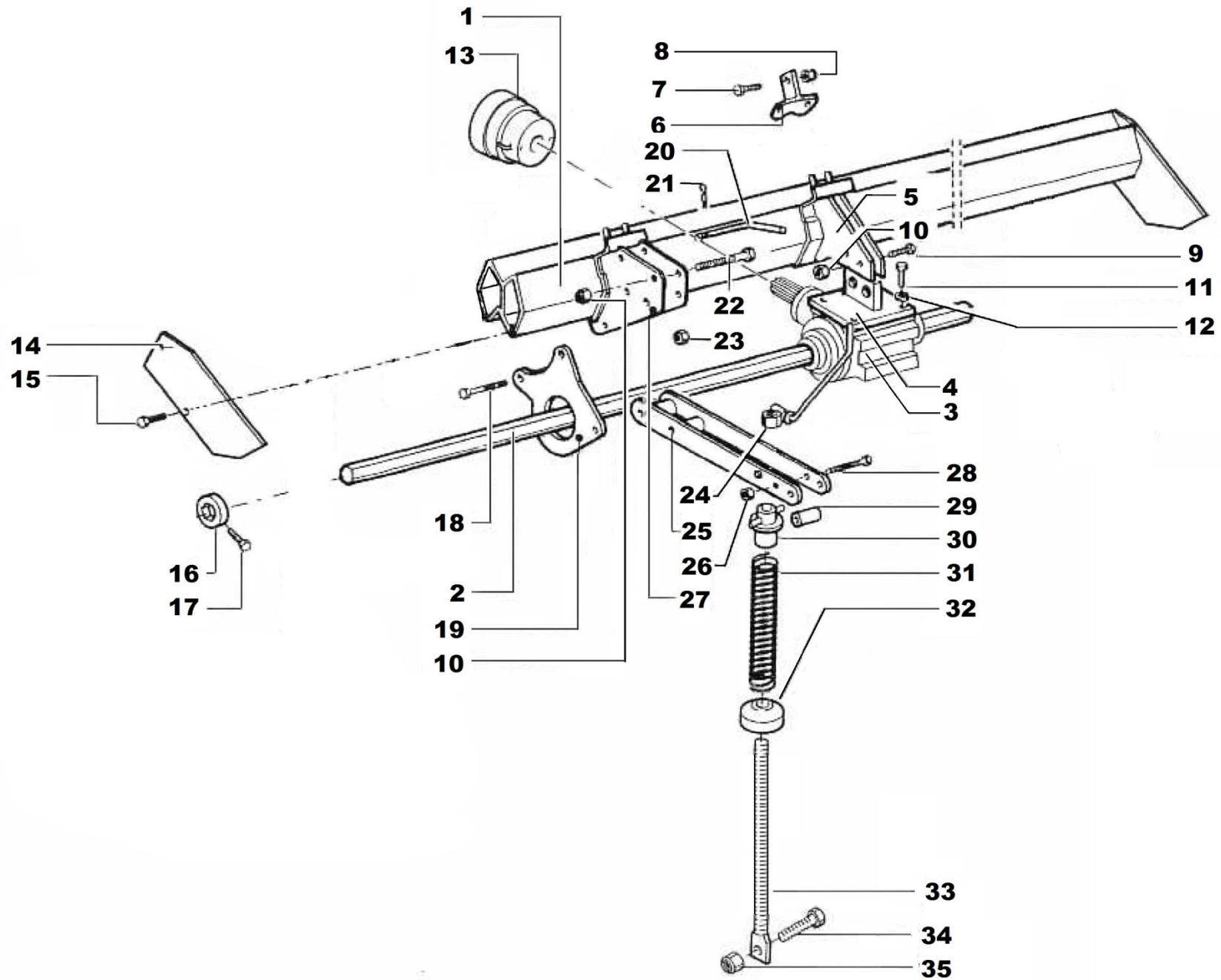
132" FRAME ONLY



FL - FLA 3-POINT HITCH
158" FRAME ONLY

**FL – FLA 3-POINT HITCH
158” FRAME ONLY**

No	Part Number	Qty	Description
1	M420610061	1	Top Tube
2	M103040072	8	Locknut M16
3	M350770012	4	Top Tube Clamp Plate
4	M103120007	2	Plug
5	M410610084	2	Outside Upright
6	M410610075	2	Center Upright
7	M101070002	2	Lynch Pin
8	M103150128	8	M16 x 55 Plated
9	M310560015	2	Hitch Pin CAT I
10	M103150109	1	Bolt M14 x 100
11	M103040070	2	Locknut M14
12	M103040022	8	Nut M12
13	M310770002	4	Clamp Plate
14	M410680016	1	Tie Rod
15	M103150098	1	Bolt M14 x 35



FL FRAME

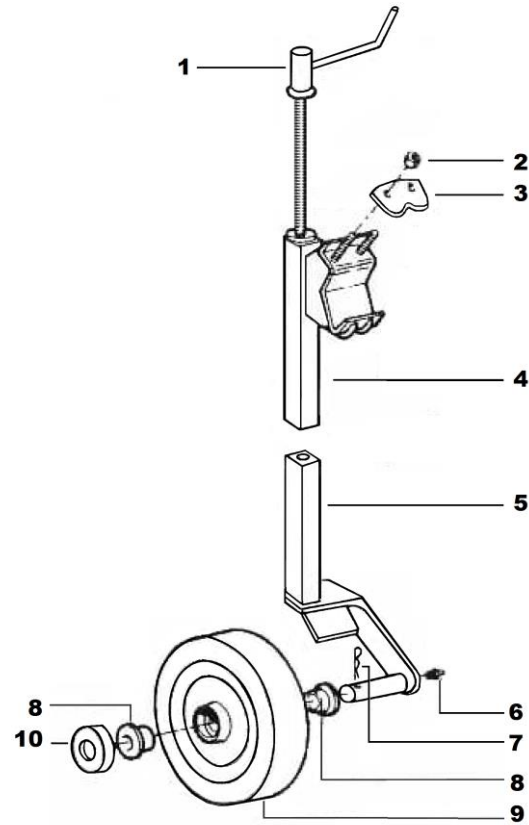
FL FRAME

No	Part Number	Qty	Description
1	M410650002	1	66" Toolbar
	M410650004	1	90" Toolbar
	M410650006	(1)	110" Toolbar (Optional)
	M410650007	1	132" Toolbar
	M410650008	1	158" Toolbar
2	M310080002	1	66" 30mm Hex Bar
	M310080004	1	90" 30mm Hex Bar
	M310080008	(1)	110" 30mm Hex Bar (Optional)
	M310080006	1	132" 30mm Hex Bar
	M310080007	1	158" 30mm Hex Bar
3	M112050024	1	FL 30mm 540 RPM Gearbox; TB27C
	M112050012XXN	1	FL 30mm 540 RPM Gearbox; Extra Narrow
4	M410610057	1	Lower Gearbox Support Bracket
	M410610025	(1)	Lower Bracket for Extra Narrow Gearbox
5	M410610021	1	Upper Gearbox Support Bracket
	M410610026	(1)	Upper Bracket for Extra Narrow Gearbox
6	M410600001	1	T-Clamp Plate
7	M103150101	1	Bolt M14 x 45
8	M103040070	1	Locknut M14
9	M103150081	1	Bolt M12 x 60
10	M103040068	1 + X	Locknut M12
11	M103150044	4	Bolt M10 x 30
12	M103100008	4	Washer M10
13	M101010002	1	PTO Guard
14	M310620004	2	Guard Plate
15	M103150034	4	Bolt M10 x 20
16	M310020001	2	Locking Ring 30mm
17	M103150005	2	Bolt M8 x 16
18	M103150093	2 * X	Bolt M12 x 112 x 1.75
19	M310570018	2 * X	Chaincase Mounting Plate
20	M310410001	X	Pin
21	M101020002	X	Clip
22	M103150090	X	Bolt M12 x 90 x 1.75
23	M103040022	X	Nut M12
24	M510130001	X	Nut with Handle
25	M410490001	X	Bracket Arm
26	M103040008	X	Nut M8
27	M410040001	X	Head Clamp
28	M103150029	X	Bolt M8 x 70
29	M310210009	X	Spacer
30	M410490001	X	Spring Guide
31	M310470001	X	Spring Coil
32	M410120001	X	Spring Collar
33	M310820001	X	Threaded Rod FL
	M310820002	X	Threaded Rod FLA
34	M103150011	X	Bolt M8 x 25
35	M103040064	X	Locknut M8

M510120023 Gearbox Mounting Kit	M510210003 FL Gearbox with mounting kit
	M510210001XXN FL Extra Narrow Gearbox with mounting kit
M510120021 Extra Narrow Gearbox Mounting Kit	

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

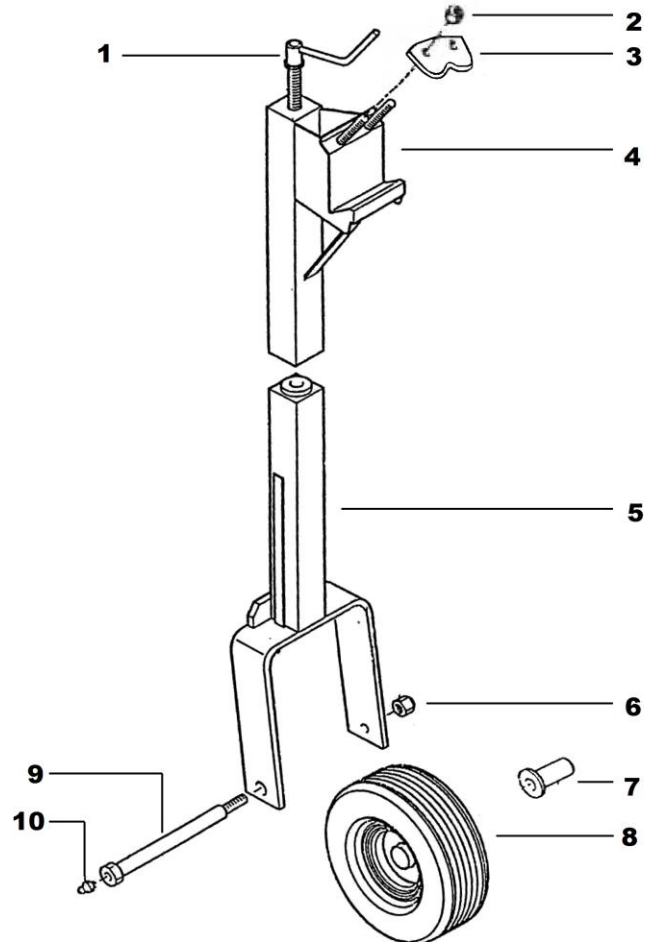
No	Part Number	Qty	Description
1	M500130004	1	Screw with Handle
2	M103040022	2	Nut M12
3	M310770001	1	Clamp Plate
4	M410610014	1	Upper Support FL/FLA
5	M410610015	1	Lower Support FL
	M410610018	1	Lower Support FLA
6	M103090002	1	Zerk M8
7	M101020010	1	Cotter Pin
8	M102010002	2	Bushing
9	M101050010	1	Wheel 250mm x 100mm
10	M310550001	1	Dust Cover



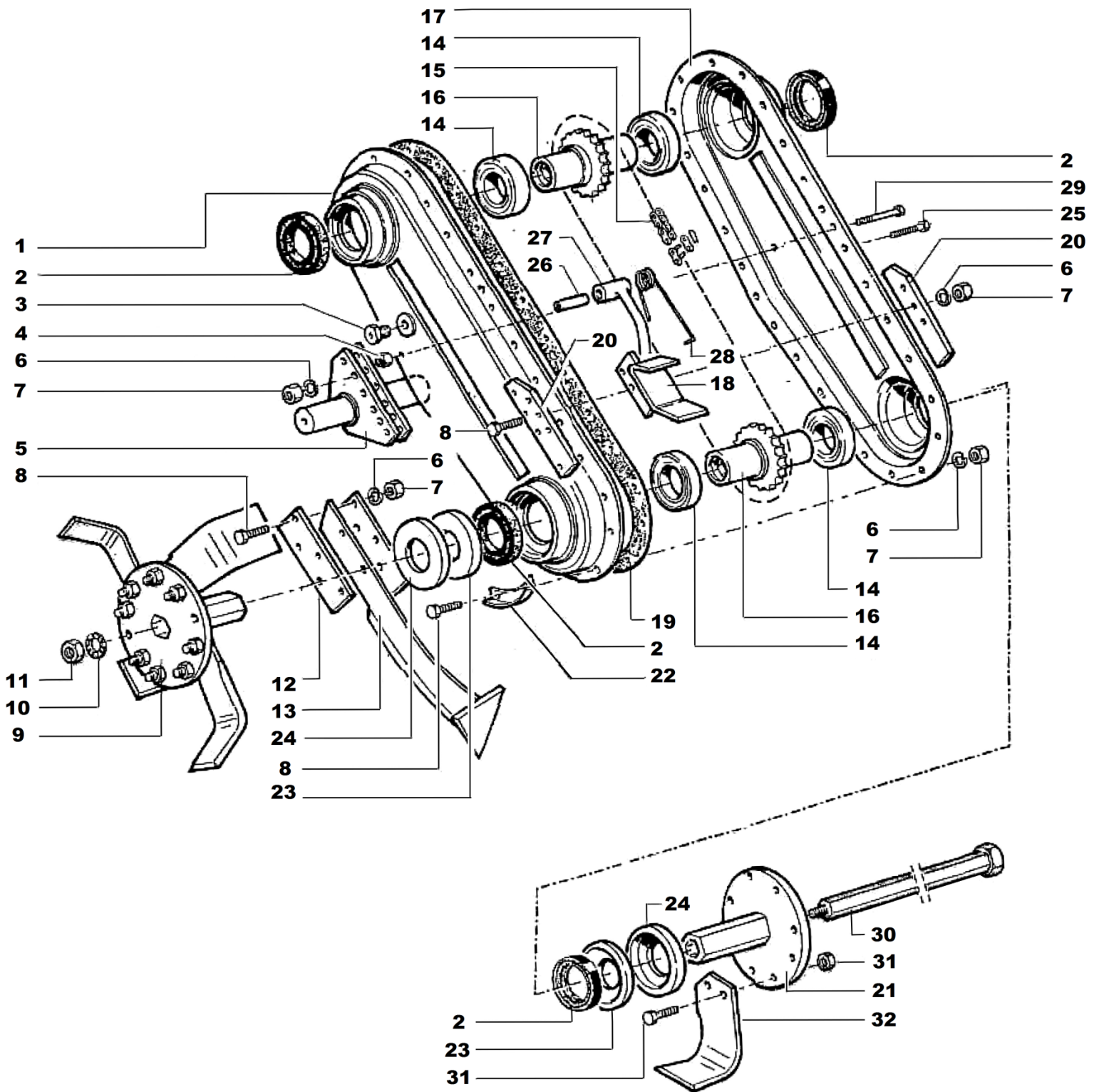
FL – FLA
M510250004 – FL
M510250005 – FLA

No	Part Number	Qty	Description
1	M500130004	1	Screw with Handle
2	M103040034	2	Nut M16 x 2.00
3	M310770001	1	Clamp Plate
4	M410610014.01	1	Upper Support
5	M410610018.02	1	Lower Support
6	M103040072	1	Locknut M16
7	M420220009	2	Spacer
8	M101050013	1	Wheel
9	M320560030	1	Axle
10	M103090002	1	Zerk M8

Not Shown	M300470024	1	Handle Spring
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FLA PNUEMATIC
M510250002.02



FL CHAINCASE ASSEMBLY

FL CHAINCASE ASSEMBLY

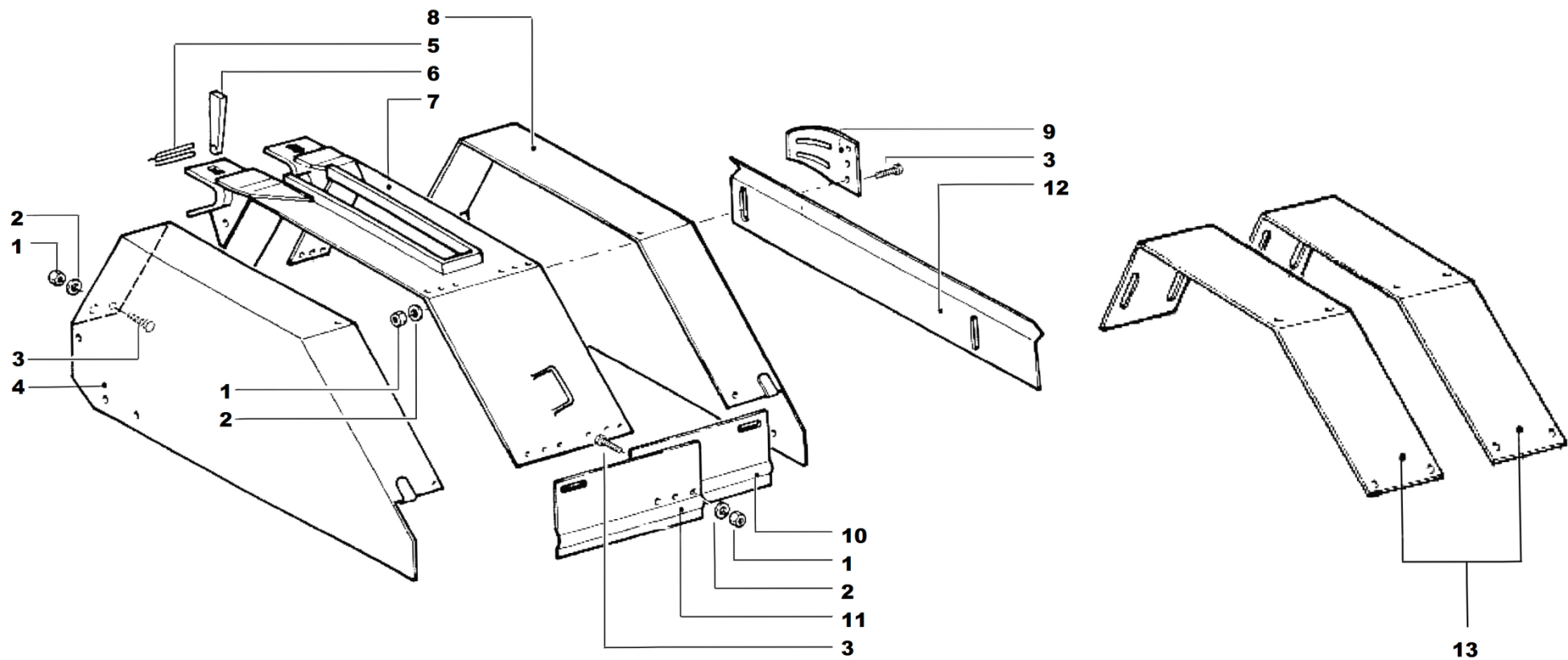
No	Part Number	Qty	Description
1	M410552001	1	Chaincase Half; Left / FL
	M410552015	1	Chaincase Half; Left / FLA
2	M109040004	4	Oilseal 65 x 45 x 10
3	M320800001	1	Fill Plug
4	M103040062	1	Locknut M6
5	M410610020	1	Front Shield Support / FL (6 Holes)
	M410610056	1	Front Shield Support / FLA (7 Holes)
6	M103100002	18	Washer M6
7	M103040062	22	Locknut M6
8	M103140008	9	Bolt M6 x 25
9	M510152001	1	Right Flange with Blades for 5.5"-7" Heads
	M510154001	1	Left Flange with Blades for 5.5"-7" Heads
	M510152002	1 + X	Right Flange with Blades
	M510154002	1 + X	Left Flange with Blades
10	M103100042	1	Washer M18
11	M103040044	1	Nut M18 x 1.5 (Low Profile)
12	M310580005	2	Depth Skid Plate / FL
	M310580109	2	Depth Skid Plate / FLA
13	M410590001	1	Depth Skid
14	M104010008	4	Bearing 6009
15	M112020002	1	Chain Assembly ¾" X 50 Pitch / FL
	M112020004.01	1	Chain Assembly ¾" X 62 Pitch / FLA
16	M310600002	2	Sprocket FL/FLA
17	M410554001	1	Chaincase Half; Right / FL
	M410554015	1	Chaincase Half; Right / FLA
18	M410030001	1	Shield Support
19	M310330001	1	Chaincase Gasket / FL
	M310330015	1	Chaincase Gasket / FLA (32 Holes)
20	M310580007	2	Rear Shield Support Mounting Plate
21	M410370002	2 + X	Rotor Flange
22	M310620055-FL	2	Chaincase Protector / FL
	M310620055-FLA	2	Chaincase Protector / FLA
23	M310550002	2	Dust Cover
24	M310210011	2	Rotor Spacer

No	Part Number	Qty	Description
25	M103140005	16	Bolt M6 x 16
26	M310090015	1	Bushing for Chain Skid
27	M410660002	1	Chain Skid
28	M310470007	1	Chain Tensioner Spring
29	M103140013	1	Bolt M6 x 50
30	M410680010	1	Drawbolt for 7"-10" Heads (6-¾")
	M410680011	1	Drawbolt for 12"-15" Heads (11.5")
	M410680012	1	Drawbolt for 16"-20" Heads (16")
	M410680013	1	Drawbolt for 20"-24" Heads (21")
31	M410680014	1	Drawbolt for 28"-32" Heads (26")
	M1111603	16 + (8 * X)	Blade Bolt & Locknut M10 x 20 x 1.25
32	M111182-R	4 + (2 * X)	FL Blade Right Hand
	M111182-L	4 + (2 * X)	FL Blade Left Hand
	M116010015-R		FL Blade Right Hand for 5.5"-7" Heads
	M116010015-L		FL Blade Left Hand for 5.5"-7" Heads

M510041001	Drive Case Assembly FL
M510040022	Drive Case Assembly FLA

Head Assemblies with Shields and Blades		
5.5"-7"	M510070001	FL Head Assembly with Shields and Blades
	M510070013	FLA Head Assembly with Shields and Blades
7"-10"	M510070002	FL Head Assembly with Shields and Blades
	M510070014	FLA Head Assembly with Shields and Blades
12"-15"	M510070003	FL Head Assembly with Shields and Blades
	M510070015	FLA Head Assembly with Shields and Blades
16"-20"	M510070004	FL Head Assembly with Shields and Blades
	M510070016	FLA Head Assembly with Shields and Blades
20"-24"	M510070005	FL Head Assembly with Shields and Blades
	M510070017	FLA Head Assembly with Shields and Blades
28"-32"	M510070006	FL Head Assembly with Shields and Blades
	M510070018	FLA Head Assembly with Shields and Blades

"X" is equal to the number of Flanges (M510152002 + M510154002) . So with one flange on either side, X = 2.



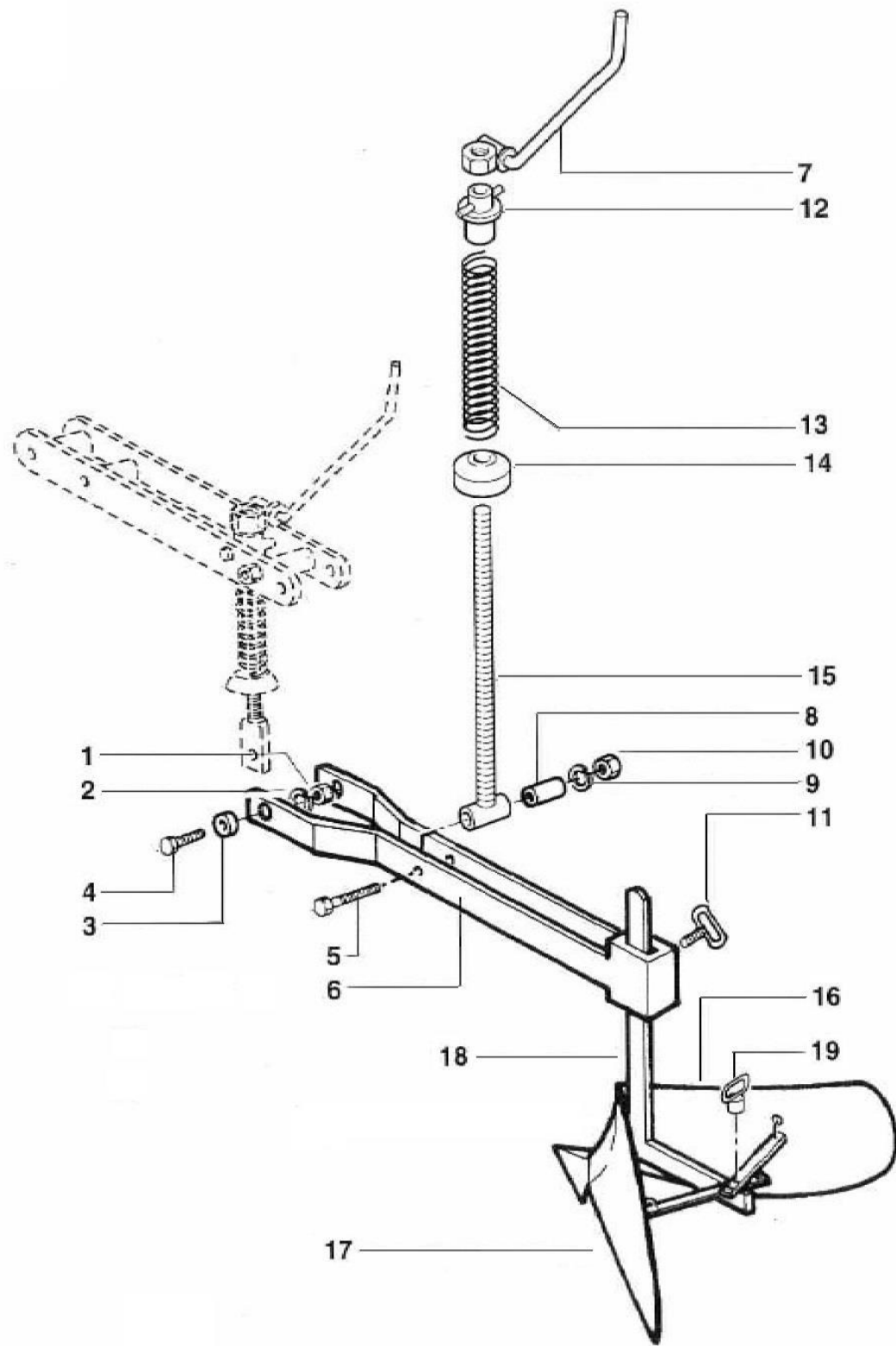
FL SHIELD ASSEMBLY

FL SHIELD ASSEMBLY			
No	Part Number	Qty	Description
1	M103040008	15	Nut M8
2	M103100006	15	Washer M8
3	M103150005	15	Bolt M8 x 16
4	M510164001	1	Side Shield Assembly/ Left Hand/ (2" Wide)
	M510164002	1	Side Shield Assembly/ Left Hand/ (3.5" Wide)
	M510164003	1	Side Shield Assembly/ Left Hand/ (5" Wide)
5	M300470018	2	Spring Wire Clip
6	M300740001	2	Wedge Pin
7	M410160001	1	Center Shield Extra Narrow(5.5" Wide)
	M410160002	1	Center Shield Narrow (7" Wide)
	M410160003	1	Center Shield Wide (16" Wide)
8	M510162001	1	Side Shield Assembly/ Right Hand/ (2" Wide)
	M510162002	1	Side Shield Assembly/ Right Hand/ (3.5" Wide)
	M510162003	1	Side Shield Assembly/ Right Hand/ (5" Wide)
9	M300620001.01	(2)	Plant Guard for 5.5"-7" Heads
	M300620001	2	Plant Guard for Standard Heads
10	M310622022	1	Rear Right Shielding for 5.5"-7" Heads
	M310622024	1	Rear Right Shielding for 7"-10" Heads
	M310622026	1	Rear Right Shielding for 12"-15" Heads
	M310622028	1	Rear Right Shielding for 16"-20" Heads
	M310622030	1	Rear Right Shielding for 20"-24" Heads
	M310622032	1	Rear Right Shielding for 28"-32" Heads
11	M310624022	1	Rear Left Shielding for 5.5"-7" Heads
	M310624024	1	Rear Left Shielding for 7"-10" Heads
	M310624026	1	Rear Left Shielding for 12"-15" Heads
	M310624028	1	Rear Left Shielding for 16"-20" Heads
	M310624030	1	Rear Left Shielding for 20"-24" Heads
	M310624032	1	Rear Left Shielding for 28"-32" Heads
12	M310622012	1	Side Shield Protector Right Hand
	M310624012	1	Side Shield Protector Left Hand
13	M310070001	(1)	Extension Shield (Optional)

Includes Side Shield Protector, Plant Guard, and hardware

Includes Side Shield Protector, Plant Guard, and hardware

M510050001	1	Shield Set Complete for 5.5"-7" Heads	Contains everything above the designated shield set
M510050002	1	Shield Set Complete for 7"-10" Heads	
M510050003	1	Shield Set Complete for 12"-15" Heads	
M510050004	1	Shield Set Complete for 16"-20" Heads	
M510050005	1	Shield Set Complete for 20"-24" Heads	
M510050006	1	Shield Set Complete for 28"-32" Heads	



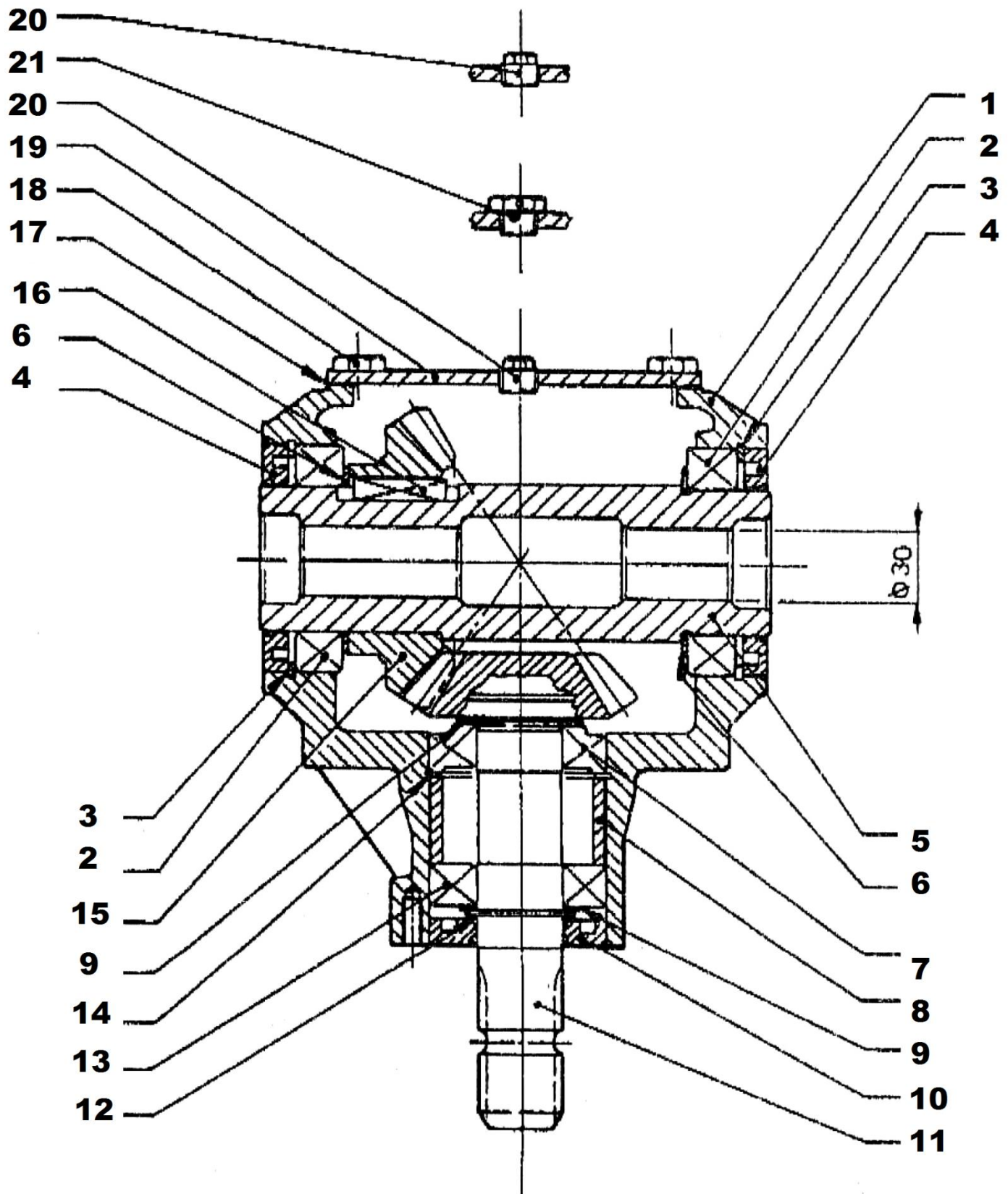
FL RIDGER ASSEMBLY

FL RIDGER ASSEMBLY

No	Part Number	Qty	Description
1	M103040014	2	Nut M10
2	M103100024	2	Lock Washer M10
3	M330090005	2	Bushing
4	M103150047	2	Bolt M10 x 35
5	M103150087	1	Bolt M12 x 80
6	M430090004	1	Ridger Bracket Arm / FL
	M430090005	1	Ridger Bracket Arm / FLA
7	M510130001	1	Handle with Nut
8	M310210009	1	Spacer
9	M103100010	1	Washer M12
10	M103040022	1	Nut M10
11	M440270001	1	Ridger Bolt
12	M410490001	1	Spring Guide
13	M310470001	1	Spring Coil / FL
14	M410120001	1	Spring Collar / FL
15	M430680008	1	Threaded Rod / FL
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

	M500230001 Ridger Spade
Not Shown	

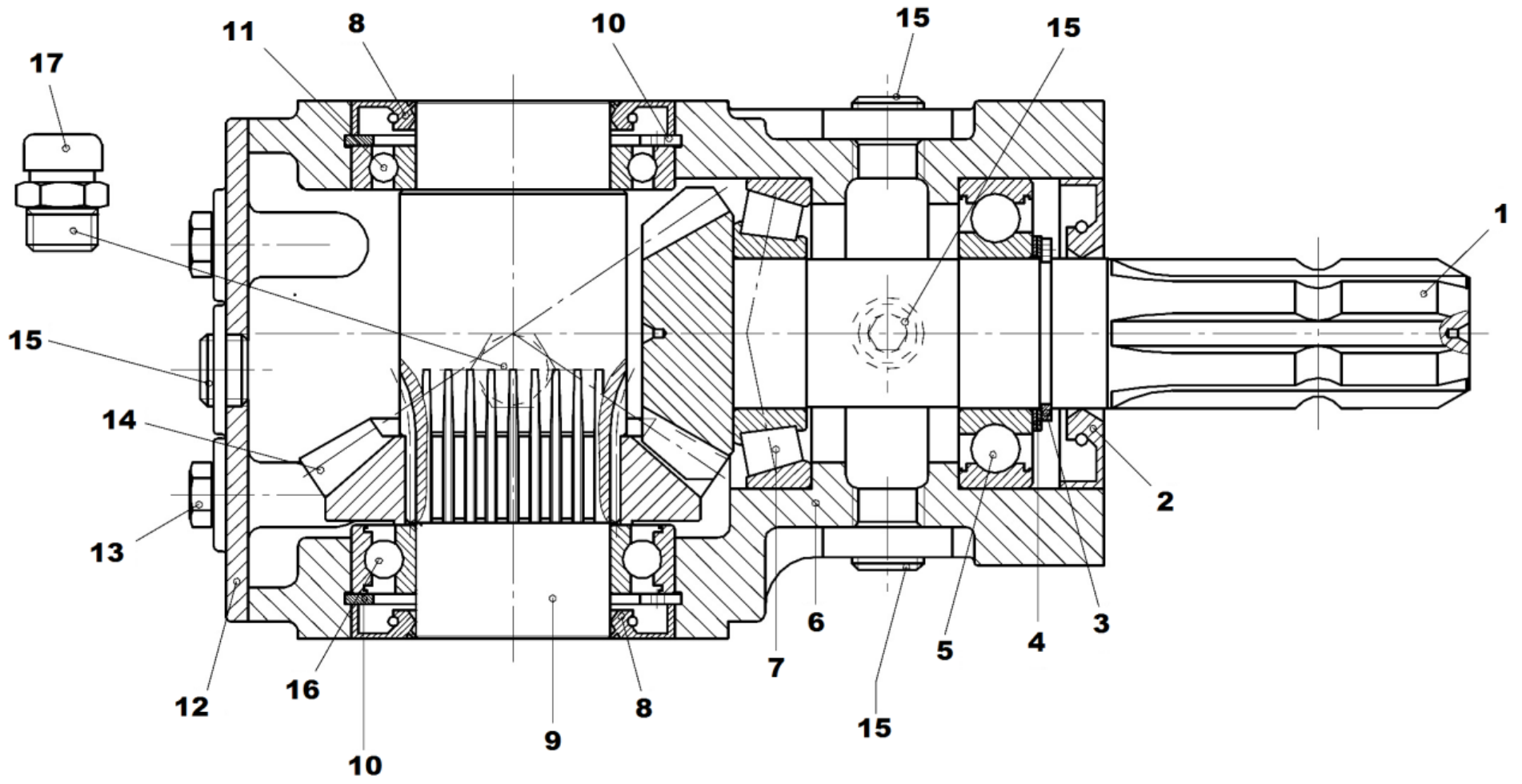
M540230002	Ridger Assembly / FL	Contains everything shown above
M540230003	Ridger Assembly / FLA	



FL GEARBOX

FL GEARBOX M112050024

No	Part Number	Qty	Description
1	M0267030200	1	Gearbox Housing
2	M80100169	2	Bearing 6012
3	M85201027	2	Internal Snpring 95mm
4	M0267710400	2	Oilseal 95 x 60 x 10 UNI 7437
5	M0267300100	1	Hex Sleeve 30mm
6	M0248750000	2	Shim 60.3 x 71.7
7	M80900026	1	Bearing 30207
8	M02677100	1	Spacer
9	M0259750000	2	Shim 35.3 x 43
10	M87300055	1	Oilseal 72 x 35 x 10
11	M0267500100	1	Pinion Shaft 15 Teeth
12	M85100005	1	External Snpring 35mm UNI 7435
13	M80100025	1	Bearing 6207
14	M85200131	1	Internal Snpring 72mm UNI 7437
15	M0267600000	1	Crownwheel 22 Teeth
16	M84101028	1	Key 14 x 9 x 35
17	M0267720000	1	Gasket
18	M81100054	4	Bolt M10 x 20
19	M0267130000	1	Cover
20	M86500006	2	3/8" Plug
22	M0107710001	1	3/8" Breather Plug

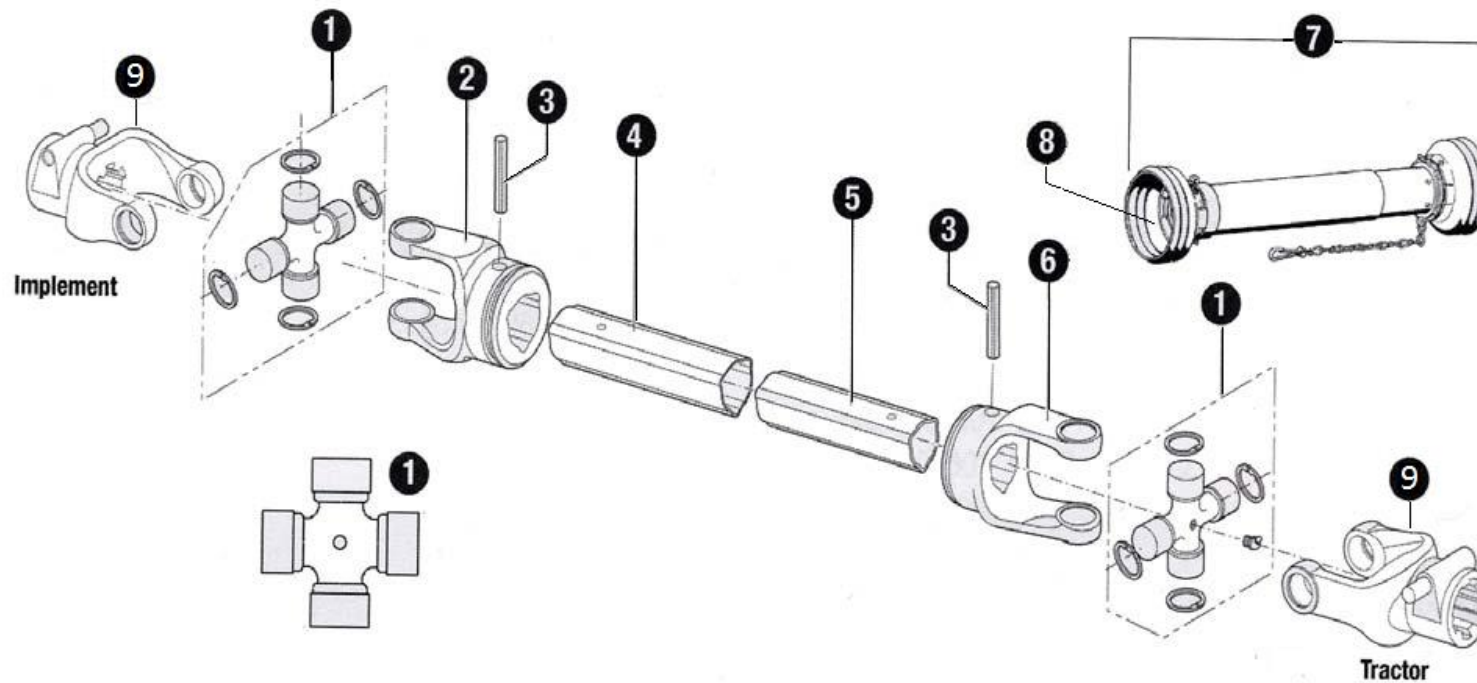


FL EXTRA NARROW GEARBOX

FL EXTRA NARROW GEARBOX M112050012XXN

No	Part Number	Qty	Description
1	Please Call	1	Input Shaft / Pinion Gear 13 Teeth
2	Please Call	1	Oilseal 72 x 35 x 10
3	Please Call	1	Snap Ring 35mm x 2.5 UNI 7436
4	Please Call	2	Shim 47 x 35 x 1
5	Please Call	1	Bearing 6207
6	Please Call	1	Gearbox Housing
7	Please Call	1	Bearing 30207
8	Please Call	2	Oilseal 75 x 45 x 8
9	Please Call	1	Hex Sleeve 30mm
10	Please Call	2	Internal Snap ring 75mm UNI 7437
11	Please Call	1	Bearing 16009
12	Please Call	1	Cover
13	Please Call	4	Bolt M8 x 20
14	Please Call	1	Crownwheel
15	Please Call	6	Oil Cap Socket Head
16	Please Call	1	Bearing 6009
17	Please Call	1	3/8" Oil breather cap

Please give us a call when ordering these parts as they are special order
 614-872-4620 – Phone
 614-873-8584 – Fax



PTO SHAFT ASSEMBLY

No	Part Number	Qty	Description
1	200-8474	2	Cross and bearing kit
2	700-6443	1	Yoke-outer tube
3	508-0860	2	Roll pin 8 x 60
4	600-6343	1	Outer tube
5	400-6436	1	Inner tube
6	300-6436	1	Yoke-inner tube
7	900-2548	1	Complete PTO guard 48"
	900-2560	1	Complete PTO guard 60"
8	961-2534	1	Guard Bearing Kit
9	102-8406*	2	Yoke 540 RPM
	560-8406†	1	Slip Clutch†

14106438

PTO Assembly with Slip Clutch

Contains everything listed above

*Replaceable with 807-8406 (clamp yoke) for Implement end only

† Cannot order individual parts; Order entire clutch