



Operator Manual cum  
Parts Catalogue for  
**KMW Mega T 12 LW - S**

**MEGA T**  
*Revolutionary Farm Machine*

## **FOREWORD**

KIRLOSKAR OIL ENGINES, LIMITED (KOEL) congratulates you for becoming a prestigious customer of KOEL by purchasing the MEGA T.

Read, Understand and follow all instructions on the machine and in the manual before attempting to operate.

The Operator Manual covers important usage instructions & guidelines on machine operating procedures, safety instructions, warranty policy, Dos and Don'ts, troubleshooting, periodic service maintenance schedule and Parts catalogue.

Register your product warranty by submitting duly filled warranty registration Card to KOEL dealer. We are providing three labours free Services, in first year of purchase, requested to utilize our services according to the service maintenance schedule mentioned in the operator manual.

This Manual Covers all variants of Mega T Series 12 HP LW - S Power Tiller's Produced by KMW. Please refer relevant details only applicable for your Machine.





# Owners Manual

**MEGA T**  
*Revolutionary Farm Machine*

Farm Mechanisation Business Unit



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## 1. MEGA T Warranty Period and Warranty Policy Guide Lines

### 1.1 Warranty Period

Sl. No.	Product	Warranty Coverage
1	Machine ( Engine, Transmission)	12 months from Date of Sale to First Purchaser
2	Proprietary parts, Like: Fuel Injection Pump, Fuel Injector, Tyre, Battery, Alternator & Starter Motor etc.	Warranties for Proprietary parts are subject to respective manufactures as per their warranty policy and guidelines.
3	Accessories / Implements	Will not be covered

### 1.2 Warranty Policy Guide Lines

1. The warranty period shall start from the date of purchase of product and applicable to the first purchaser on receipt of the warranty Registration Card.
2. The warranty only covers the manufacturing defect or defective part within the specified warranty timeframe only.
3. The warranty will cease if Service maintenance is not carried out as per periodical maintenance schedule.
4. Warranty voids if KOEL genuine parts or approved blades are not used on machine during periodical maintenance.
5. The warranty will not cover for normal wear & tear of parts such as brake lining, clutch plate, drive belt, rubber parts, plastic parts, electrical parts.
6. Under warranty period, only repair or replacement of defective parts will be considered, replacement of the machine is not warranted.
7. Warranty is not transferable to the second and subsequent owners.
8. The warranty ceases if the machine is serviced or repaired by unauthorized persons or at any Local workshop.
9. The warranty will not cover for any accidental damage, fire, collision, improper usage, tampering, customer abuse and external modifications/fabrications done by the customer.

**KOEL reserves the right to refuse warranty if the product was found not to be carried periodical maintenance & installed as per our installation instructions.**

## 2. WARRANTY REGISTRATION CARD / Sales Intimation Card

Mega - T Details						
Model			Invoice No.		Invoice Date	
Engine No.						
Frame No. Battery make & No. Alternator make & No. Starter motor make & No.			Warranty Start Date		Warranty End Date	
Please mark <input checked="" type="checkbox"/> the machine is using for. List Of Accessories/ Attachments	Cage Wheel	<input type="checkbox"/>	Power Plough	<input type="checkbox"/>	Cultivator	<input type="checkbox"/>
	Disc Harrow	<input type="checkbox"/>	Trailer/water tanker	<input type="checkbox"/>	Rototiller	<input type="checkbox"/>
	M.B. Plough	<input type="checkbox"/>	Sprayer (Gun Type), (Boom Type)	<input type="checkbox"/> <input type="checkbox"/>	Stone Cutter	<input type="checkbox"/>
	Ridger	<input type="checkbox"/>	Water Pump	<input type="checkbox"/>	Reaper	<input type="checkbox"/>
	Potato Digger	<input type="checkbox"/>	Potato Planter	<input type="checkbox"/>	Mini Loader	<input type="checkbox"/>
	Sugar Cane Planter	<input type="checkbox"/>	Seed Dryer	<input type="checkbox"/>	Multicrop Thresher	<input type="checkbox"/>
	Hopper	<input type="checkbox"/>	Generator	<input type="checkbox"/>	Seed cum Fertiliser drill	<input type="checkbox"/>
The Mega - T and accessories have been handed over to the Customer in good condition after pre-delivery inspection, training and service.						
Use of Mega – T	Farm Use (Rotavation)			Other Use		
	Puddling <input type="checkbox"/>	Sowing <input type="checkbox"/>	Pumping Water <input type="checkbox"/>	Stone Cutting <input type="checkbox"/>		
	Inter culture <input type="checkbox"/>	Harvesting <input type="checkbox"/>	Spraying <input type="checkbox"/>	Haulage <input type="checkbox"/>		
Customer Details						
Name						
Address Line NO 1 / Village					PIN	
Tehsil / Taluka					District	
City						
State					Country	
Mobile / mail ID					Date of Birth	
Customer Signature (I acknowledge that I have read, understood and I accept the warranty policy and terms.)				Dealer's Seal & Signature		

• Dealer has to maintain the photo copy of the WRC

(Company Copy)



### 3. Technical Specifications

MEGA-T12 LW - S Specifications	
Brand Name	MEGA-T12LW - S
Brand Name	KMW
<b>Engine</b>	
Model	P-700
Emission Compliance	TREM III Compliant
No. of Cylinder	One
Type	DI, Horizontal Single Cylinder
Rated Power Output (HP/ KW)	12 / 8.8
Rated RPM	2400
High Idle RPM	2650
Low Idle RPM	1200
Bore x Stroke (mm)	95 x 98
Displacement (cc)	694
Max Torque (Nm)	42
Max Torque RPM	1400
Type of Cooling	Water cooled
Engine oil	SAE15W40 CF4
Engine oil sump capacity (L)	1.3 litre
Air cleaner	Oil Bath Type
Fuel Tank Capacity (L)	8.0 Liters
<b>Transmission</b>	
Make	KOEL (Kirloskar Oil Engines Ltd.)
No. of Gears	6 Forward + 2 Reverse
Speed Chart (kmph)	
Low Range	
1st	1.72
2nd	3.13
3rd	3.93
Rev	1.43
High Range	
1st	6.15
2nd	11.21
3rd	14.05
Rev	5.12
Gear box oil	SAE 80 W 90
Gear box oil capacity (L)	6.5 Liters
Chain Casing Oil	SAE 80 W 90
	0.5 Liters
LH Support housing	Grease filled
Type of grease	General purpose grease

## Technical Specifications

<b>Main Clutch</b>	
Type	Multiplate clutch
Clutch lining material	Organic
Clutch plate dia	160 mm
<b>Method of operation\By Hand lever on LHS Handle Bar</b>	
<b>Brake</b>	
Transmission Brake	optional available
Parking Brake	Provided on transmission
Actuation Method	Lever combined with Clutch actuating lever (by pulling towards rearmost position on the quadrant)
<b>Steering</b>	
Method	Independent jaw clutch for each wheel
Actuation	By levers provided on the handle.
<b>Rotary Tiller</b>	
No. of blades	Wet Land: 20 Sugar Cane Centralised: 22
Type of blades	Hatchet Blade & Straight blade
Side chain drive	Chain drive
Rotor Shaft	Removable
Bearing Sealing	Special Multi lip seal
Rotor speeds :	
By Range Selection (Rotor Low & Rotor High)	250 RPM & 364 RPM
By Sprocket interchanging (12T Driving & 14 T Driven)	184 RPM & 267 RPM
<b>Electricals</b>	
Head Lamp	35 W /35 W
<b>Overall</b>	
<b>Dimensions</b>	
Length (without seating attachment)	2500 mm
Width	860 mm
Height	1320 mm (Level surface)
Seating arrangement	Optional available
<b>Weight</b>	
Without rotary tiller	380Kg
With rotary tiller	450 Kg
<b>Tyres</b>	
Drive Tyres	6.00 -12 - Pneumatic, Traction Type
Tail Wheel	3.5 - 8.00 Pneumatic
<b>Recommended air pressure</b>	
For Field	1.68 kgf/cm <sup>2</sup>
For Road	1.54 kgf/cm <sup>2</sup>
<b>Track Width</b>	
Standard supply condition	710 mm
Track width	Standard
Method of track adjustment	By reversing wheel rim

## **4. Safety**

### **4.1 Safety Precautions of MEGA T**

1. Read and follow the owner's manual and safety instructions carefully before operating.
2. Don't allow children to use the machine.
3. The operating controls, such as steering handle, gear-levers, foot rests, and switches, shall be arranged and fitted in such a way as to allow safe and easy control and handling by an operator in the normal operating position.
4. Relative location of hand controls which determine the position of the operator, relative to the Mega T, and location of working parts of Mega T designed to prevent accidental contact of operator with such moving parts (Dangerous parts).
5. In general all moving parts shall be treated as dangerous;  
Particular attention is drawn to the following points:
  - All shafts (including joints, shaft ends), pulleys, flywheels, gearing (including friction roller mechanisms), cables, sprockets, belts, chains, clutches, couplings and all blades or blades of fan.

### **4.2 DOs**

#### **Training**

1. Read, Understand and follow all instructions on the machine and in the manual before attempting to operate. Keep this manual in a safe place for future and regular reference and for ordering replacement for parts.
2. Be familiar with all controls and their proper operations, know how to stop the machine and disengage them quickly.

#### **A. General - Operator should:**

- a) Be in good health, sound mind and be not under the influence of any sort of intoxicants;
- b) Be adequately trained on Mega T, and when required;
- c) Obtain and read the operator's manual before using the power Mega T for the first time; and when required.
- d) Wear suitable footwear and comfortable clothing.

#### **B. Before Starting Mega T - Operator should:**

- a) Inspect the machine and make certain that it is properly adjusted and in good working condition;
- b) Keep all controls in neutral before starting.
- c) Ensure that engaging surfaces of starting handle are in good condition, and handle can disengage without effort for safe starting.
- d) Adjust height of rotor to avoid its contact with ground while starting.



## C. Field Operation - Operator should:

- a) Achieve weight balance of Mega T by adding the manufacturer's recommended ballast for the attachment before starting operations.
- b) Be careful not to over lift the rotary device during the operation in wet fields.
- c) Ensure handles and grips are free of mud and grease before operation.
- d) Don't change gear or suddenly press one of the side clutches or brakes which can cause the Mega T to swing to either side or lift upwards during operation. This may bring rotary device dangerously close to the operator's feet or cause him to lose control.
- e) Maintain rubber fender plate at rear of rotor in good condition, as it protects the operator from stones and mud thrown up by rotary blades.
- f) See that rear float or depth wheel is in good condition and locked firmly in place before the start of the operation. Sudden lift of wheel can cause accident to the operator.
- g) Don't take the Mega T in reverse when going up/down slope.
- h) Ensure that control linkages are in good condition and control levers are operating smoothly before start of operation.
- j) Avoid using steering lever LH/RH and ensure disengagement of rotor when moving up or down slopes or crossing bunds.

## D. Travelling with Trailer - Operator should:

- a) Check if trailer brakes are operating in satisfactory condition before starting.
- b) Take care not to apply steering lever LH/RH while driving up or down a slope with trailer. This will cause Mega T to swing in the opposite direction.
- c) Turn trailer at low speed as the application of side turn at high speed can cause the Mega T to swing around and operator to lose control.
- d) Ensure that no other person is allowed to sit with him on the driving seat as he requires space to maintain the Mega T during turning. No person shall be allowed to move or stand dangerously during movement of the trailer;
- e) Ensure that rated load of trailer is not exceeded.
- f) Apply trailer brakes before applying the Mega T brakes**

**Note:** Disengage the tiller tine drive, and raise the tines during transportation of Mega T.

## E. Maintenance & Storage - Operator should:

- a) Only use genuine spare parts/accessories approved by Mega T.
- b) Check the engine oil, transmission oil, chain transmission oil, coolant level before use of the machine.
- c) Check the tyre pressure.
- d) Clear the work area of objects that might jam or wrap around the tines such as glass, large sticks, stones, metal objects, wire, rope, and string-like materials.
- e) Keep machine, attachment and accessories in safe working order.

- f) Apply Grease/Oil to all links, pins and rivets.
- g) Wash and clean the machine periodically.
- h) Check Tyre pressure after 15 days.
- i) Keep Machine in level platform.

#### **4.3 Don'ts**

1. Do not operate the Mega T on road / highway.
2. Don't operate the Mega T without any Demonstration training.
3. Do not operate both clutch – brake lever and steering controls together during the start of the engine.
4. Do not operate if you found any leakage of Fuel or lubricants.
5. Do not allow Mega T to go forward on a slope in neutral position;
6. Do not operate Mega T, on greater slopes or on any excessive steep slope by operating both steering levers.
7. Never make a sudden turn at high speed. Never drive the Mega T at high speed in rough road.
8. Never place your hands, feet, or any part of your body near or under any moving part while the Mega T engine is running.
9. Do not touch the muffler and engine when the machine is in use.
10. Do not use this machine around large roots and surface rocks.
11. Do not use this machine around underground pipes and wiring.
12. Do not use machine when fuel leakage is observed near FIP, Injector and Fuel lines Never operate near drop-offs, ditches, or edges; wet, or slippery slopes.
13. Never park the tow vehicle on a steep grade or slope.
14. Do not operate the machine without good visibility.
15. Do not use the reverse gear for any field applications.
16. Do not tamper with any safety devices or fittings.
17. Do not use unapproved attachments.
18. Don't use non recommended blades.
19. Disengage clutch before shifting gear
20. Ensure gears are aligned properly during shifting and if not release clutch to align the gear.

## 4.4 Recognize Decals Informations

An important the safety incorporated into MEGA T is the warning and information decals found in various parts of the machine.

### Safety Decal

### Location of Decal

1. Location: On Silencer



2. Location of Decal: On LHS OF Upper Cover Plate Rototiller (LHS from Tail wheel)



3. Location of Decal: On Steering Mounting Cover



4. Location of Decal: On LHS OF Upper Cover Plate Rototiller (LHS from Driver Seat)



5. Location of Decal: On RHS OF Upper Cover Plate Rototiller (RHS from Driver Seat)



6. Location of Decal: On Upper Cover Plate Rototiller

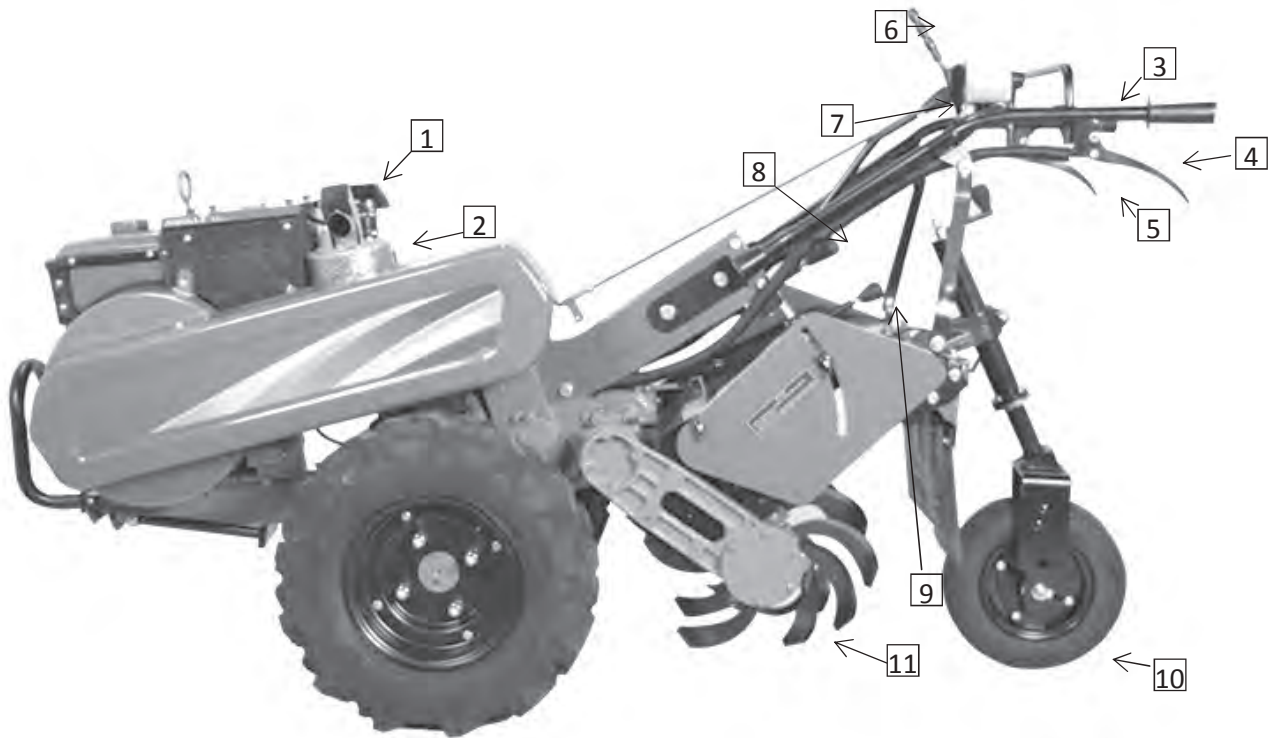


7. Location of Decal: On Air Filter and On Engine Timing Gear Casing



## 5. Equipment familiarization & Locations View

### 5.1 Equipment View: Mega T 12LW - S

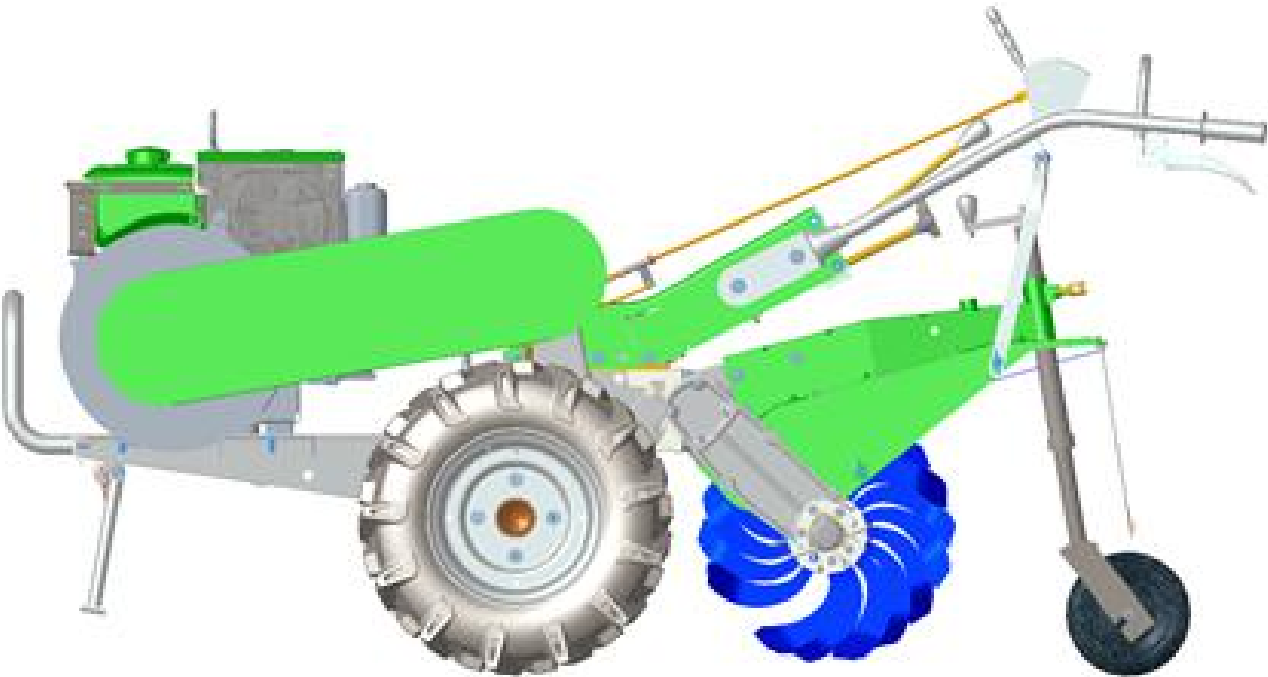


#### Description:

1. Air filter
2. Muffler
3. Steering Handle Assembly
4. Steering Control lever LH
5. Steering Control lever RH
6. Clutch & Parking Brake Lever
7. Main Gear Selection Lever
8. Hi-Low Range Selection Lever
9. Rototiller Gear Selection Lever.
10. Tail wheel.
11. Tiller Blades.



Mega T 12 LW- S Model



5.2 Chassis & Engine Number Plate for Mega T 12 LW - S

Engine Number Plate

ENGINE MODEL  
P700  
RATING kW/hp rpm  
5.5/12 2400  
RATING STD.  
ISO 3046  
GOVERNING CLASS  
M2  
ENGINE No.  
P12.NS01/2000005  
KIRLOSKAR OIL ENGINES LTD  
INDIA

Engine Model: P700

Rated RPM: 2400

Chassis Number Plate

MODEL  
KMW-MEGA-T12LW-S  
ENGINE NO  
P12.NS01/2000005  
CHASSIS NO  
P12.NSLW/2000005  
MONTH YEAR  
B 7  
KIRLOSKAR OIL ENGINES LTD  
A Kirloskar Group Company  
MADE IN INDIA

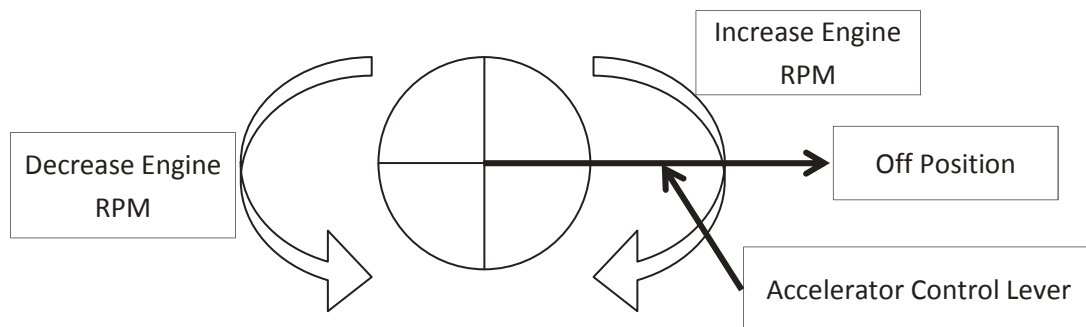
Model Name: KMW MEGA T 12 - S

P12. S01 -12 HP Low Weight

## 6. Controls familiarisation & Operating Instructions

### 6.1 Accelerator (Throttle) Control lever

Accelerator (Throttle) Control lever is used to increase / decrease engine RPM.



To decrease engine RPM (fig-1)



To decrease engine RPM, push the lever to anti clockwise direction as shown in fig. no.-1

To increase engine RPM (fig-2)



To increase engine RPM, pull Lever to clockwise direction as shown in fig. no.-2

## 6.2 Clutch & Parking Brake Controls

The Single lever will help to do the function of Clutch & Parking Brake.

Clutch & Parking Brake Control Lever (CPBL) is use to move and stop the movement of Machine.



Engage Position

To engage, move/shift CPBL to forward position towards extreme end position of bracket as shown in fig (towards engine side)



Disengage Position

To disengage, move/shift CPBL to reverse position towards the driver side as shown in fig.

### Caution

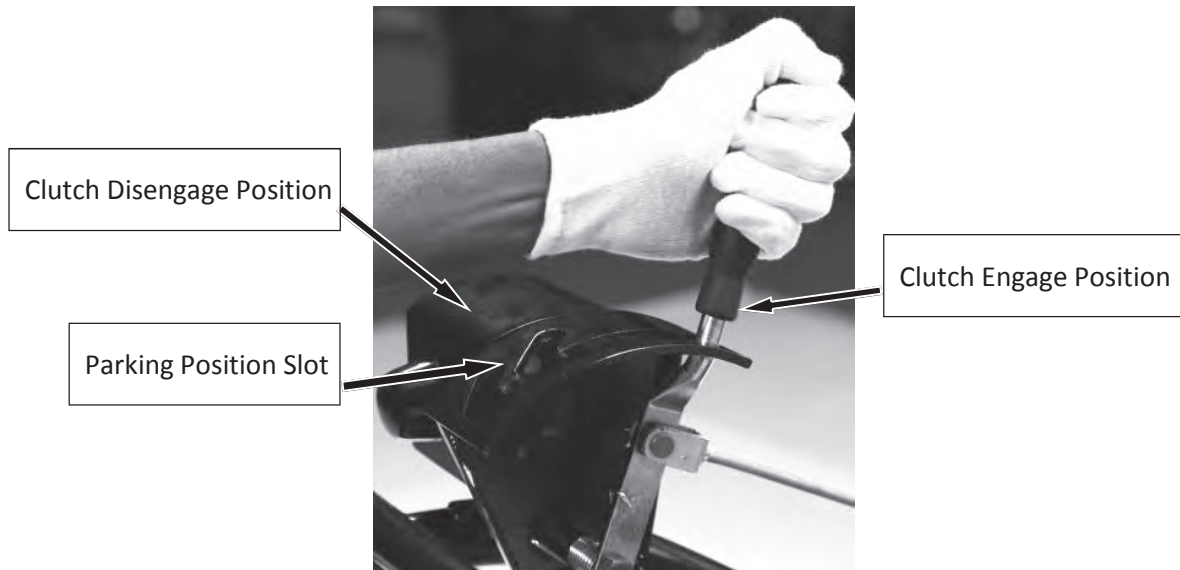
Always keep CPBL in disengaged position before start of the engine.

Always use the parking brake.



## 6.3.1 Clutch Engage & Disengage Lever & Parking Brake Lever

- Parking brake is used to park the machine when it is not in use / at idle condition.



## 6.3.2 Parking Brake Position

- To use the parking brake, pull the lever to an extreme end position towards the driver side as shown in fig.

### Warning:

Always apply the parking brake to park the machine or machine is not in use.

## 6.4 Steering Control

Steering controls is use to turn the machine in required direction.

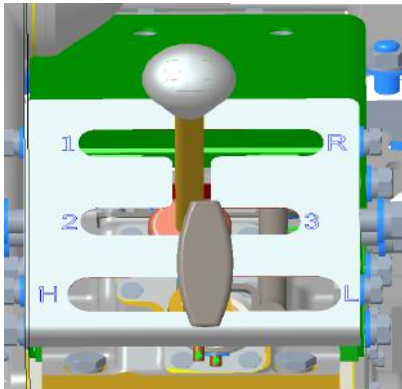


### Warning:

Do not press steering levers when brake is applied.

## 6.5 Gear Shifting

### 6.5.1 Main Gear Shifter Lever



Main Gear shifter lever

Main Hi-Low Lever with Rotor Hi-Low Lever

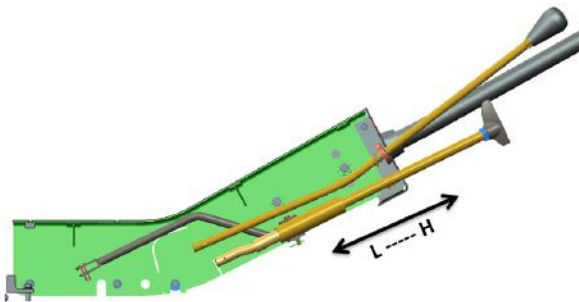
- Use to move & change the speed & Torque of the machine.
- Shift gear shifter as shown in fig. 1 according to various working speeds required and condition.
- Total 6 forward speeds and 2 reverse speeds given, supported by selecting of high low range selection gears.

#### **Warning:**

Shift all the gears when the Clutch is in disengaging position.

### 6.5.2 High Low Range Selection Lever

- Selecting of H/L ranges lever to get, High or Low speed with the help of lever.



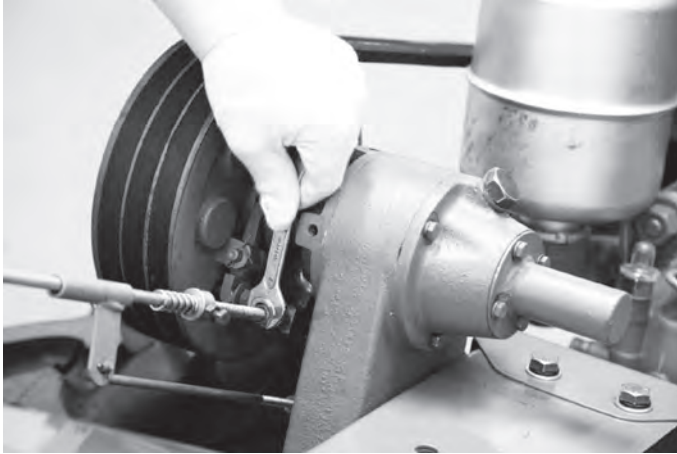
### 6.5.3 Rototiller Speed Selection Gears



- Select rototiller gear lever to LH to low rpm speed of tiller shaft.
- Select rototiller gear lever to RH to high rpm speed of tiller shaft.



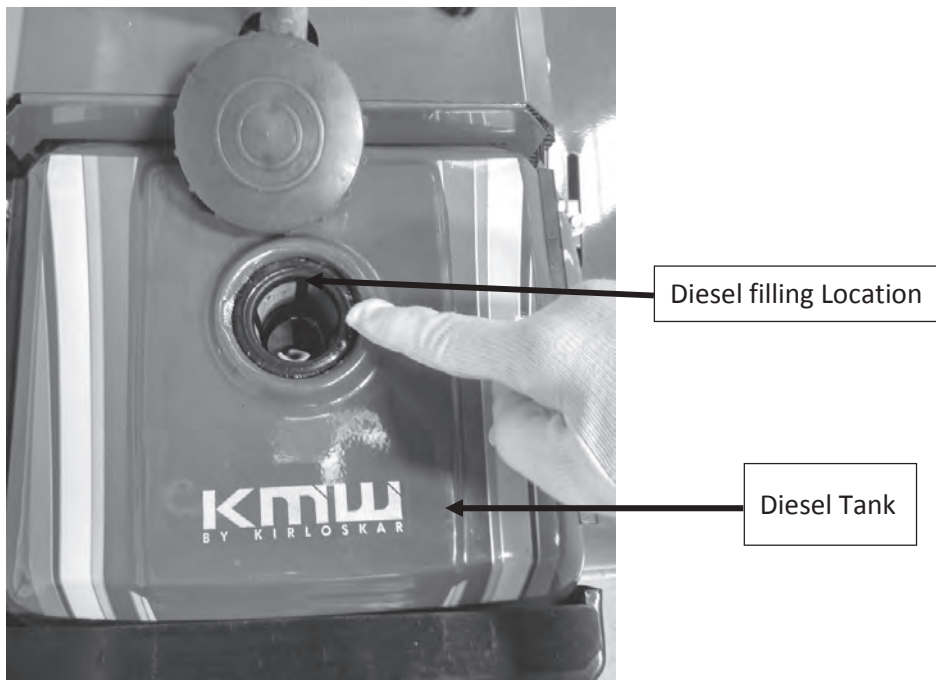
### 6.5.4 Side Power take off option (PTO)

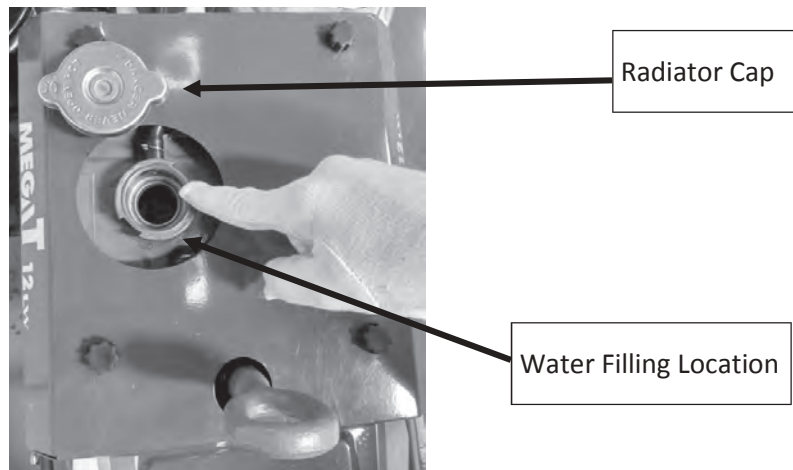


A power take-off or power take-off (PTO) is any of several methods for taking power from a power source, such as a running engine, and transmitting it to an application such as an attached implement or separate machines.

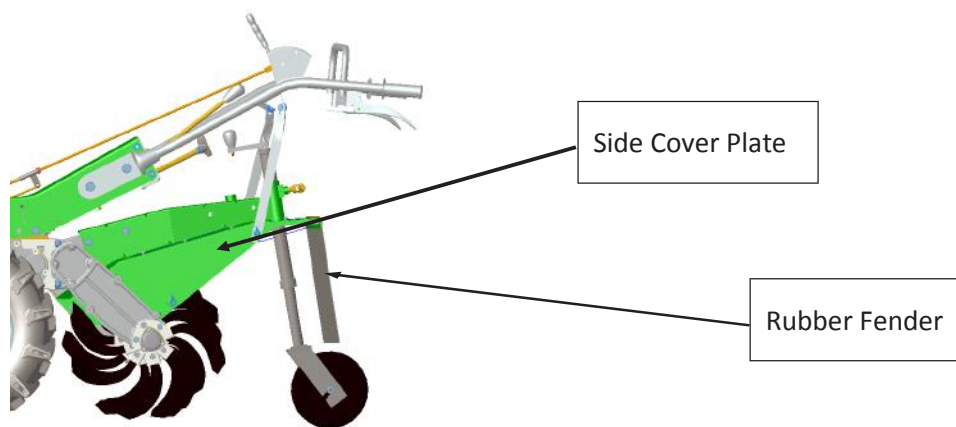
**Note:** Please attend demonstrations training program to use the power take off option

### 6.5.5 Diesel and Water filling Locations with caps



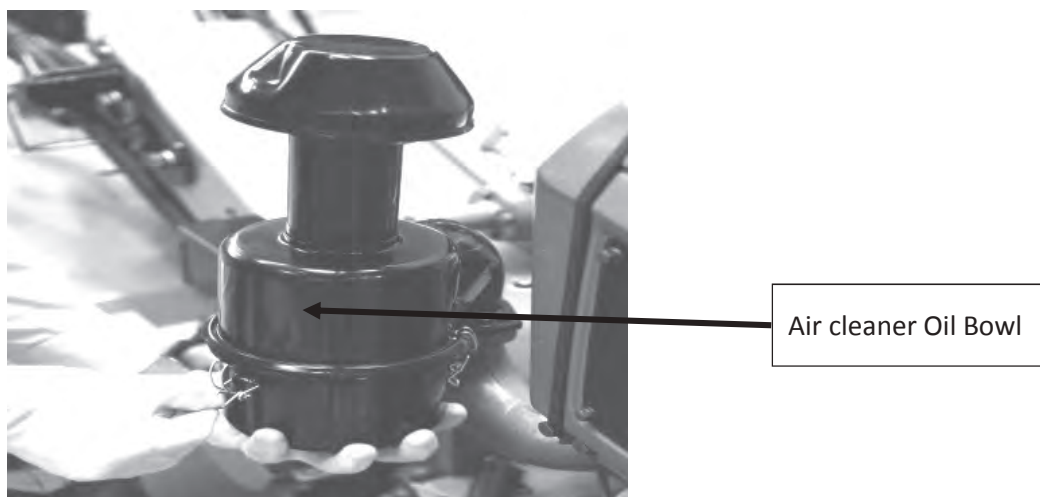


#### 6.5.6 Side flap for rotary tiller



**Note:** Don't remove side cover plate & rubber fender, during field operations

#### 6.5.7 Air cleaner Assembly



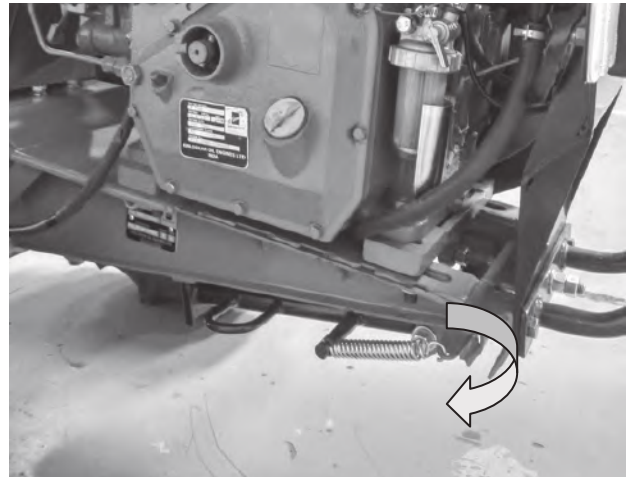
- Please clean the air filter as per recommendation.
- In Case machine is operating in dusty situations, needs to be clean after every operation.

## 6.5.8 Front Stand

Stand, is a device to which bicycles can be securely attached to for parking purposes.



Stand on position



Stand-off position

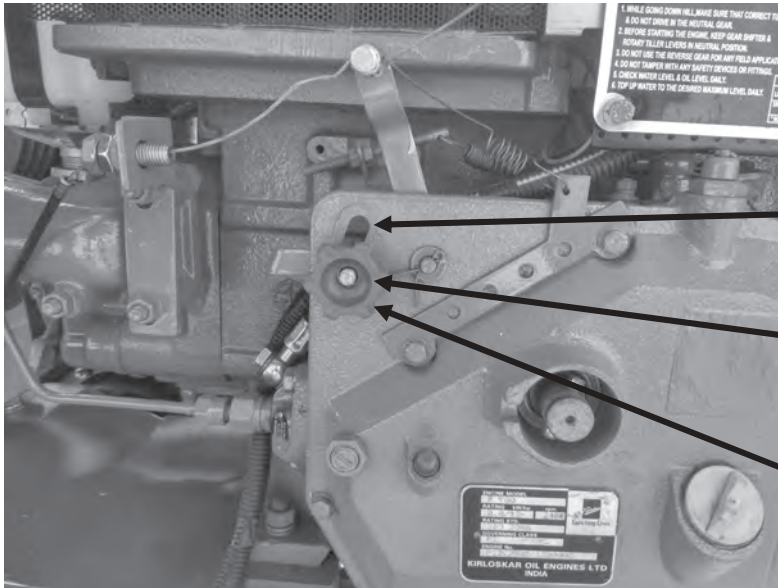
## 7 Engine Starting Process



- Please use the handle to start the engine and rotate the handle in clockwise direction.



## 7.1 Engine Off & On Position



Off Position: Step-1  
Step-2  
Step-3

Press Speed control Knob,  
upwards to switch off engine

Speed Control Knob

## 8. MEGA T adjustments and Settings

### 8.1 V – Belt Tension Adjustments

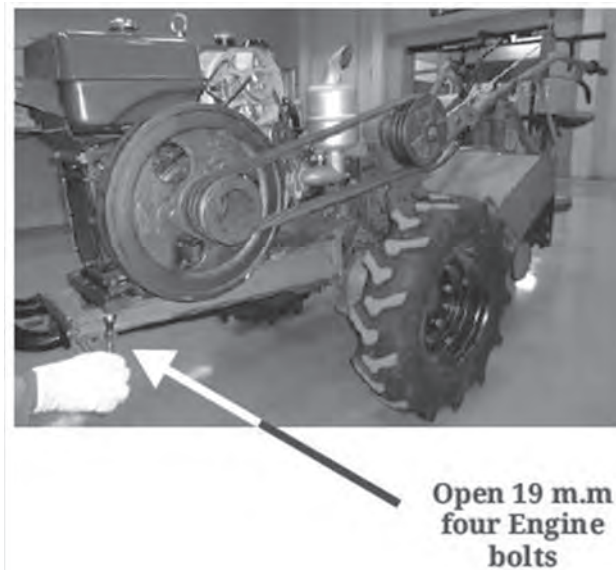
- Remove clutch pulley cover, to check transmission belt tension.



- Check for excess or less slack by pressing all belts together.



- If found, loosen all engine mounting nuts with use of 19 mm spanner.



- To adjust specified tension, move engine front or rear with the help of adjusting studs to achieve required tension and tighten engine mounting nuts.

**Caution:**

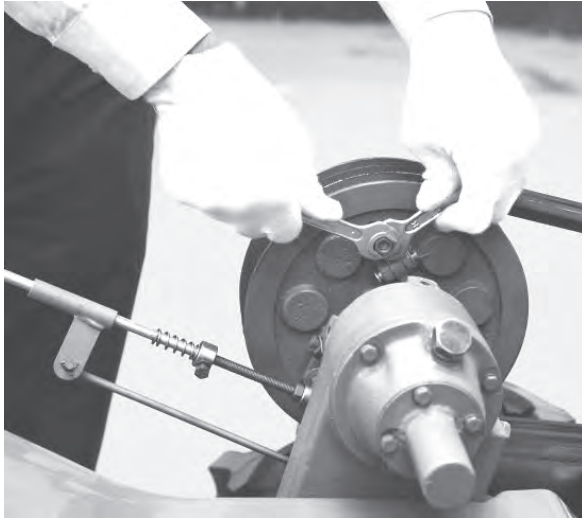
Check transmission belt tension periodically to get better performance of machine and better life of belts.

### 8.2 Clutch Adjustment and Setting

- Keep/shift Clutch & Brake Lever (CBL) in engage position.



- Check clearance between clutch finger and clutch release bearing by use of feeler gauge.
- Maintain 0.2 to 0.3mm max clearance between clutch finger and clutch release bearing, by adjusting clutch finger lock nut.
- Clutch finger never be loaded while the clutch is engaged



### 8.3 Main Clutch and Brake Pull Rod Adjustments

#### 8.3.1 Clutch Pull rod adjustment

- Step-1: Shift Clutch & Brake Lever (CBL) to engage position.
- Step-2: Loosen clutch pull rod lock nut and remove Clevis pin. Adjust length of clutch pull rod & clutch free play by rotating pull rod in clock wise or anti-clock wise direction at CBL lever end.
- Step-3: After length adjustment, place clevis pin & tighten lock nut and insert split cotter pin.

#### 8.3.2 Parking Brake adjustment



Step-1

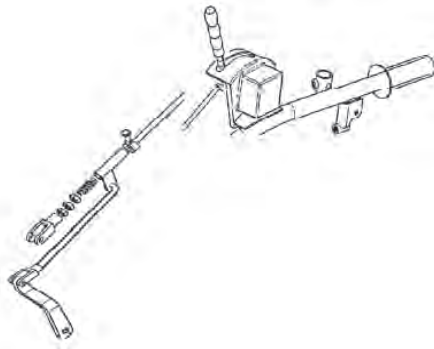


Step-2

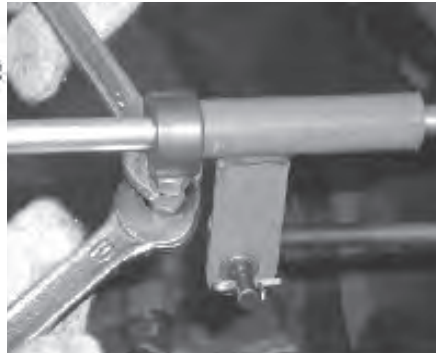


Step-3

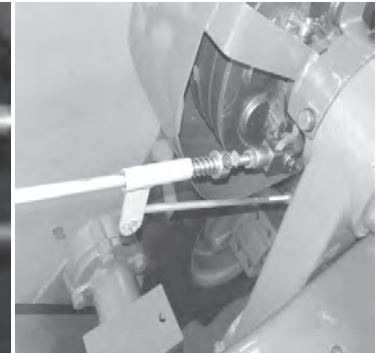




Step-1



Step-2

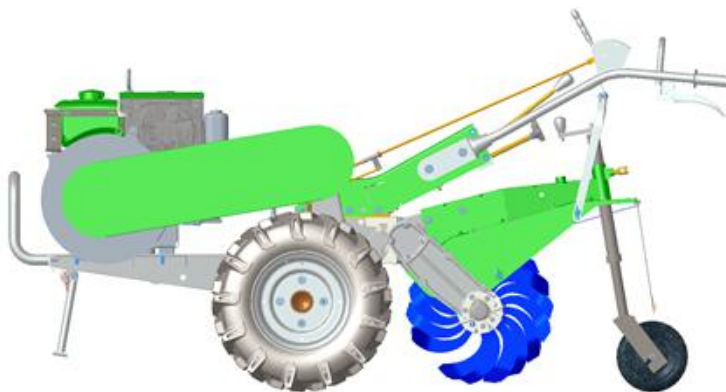


Step-3

- Shift Clutch & Brake Lever (CBL) to disengage position.
- Loose the allen screw and maintain approx. 1mm gap between spring and allen. Take care not to load the spring too much & at the same time parking brake should operate.

## 8.4 Steering Adjustment

- Keep machine in straight position and check both steering lever for correct operation.



- Operate steering lever to disengage transmission from steering gears. Now try to move Mega T right and left side. It should move freely.



- If there is restriction in movement, then loosen steering lever locking nut. Now loosen steering cable locking nut and rotate it in clockwise or anti clockwise direction to adjust length. After adjusting, tighten steering lever locking nut.

- Don't open adjusting screw to extreme end other will be the steering gear jaw will be partially loaded during operation & will damage it.



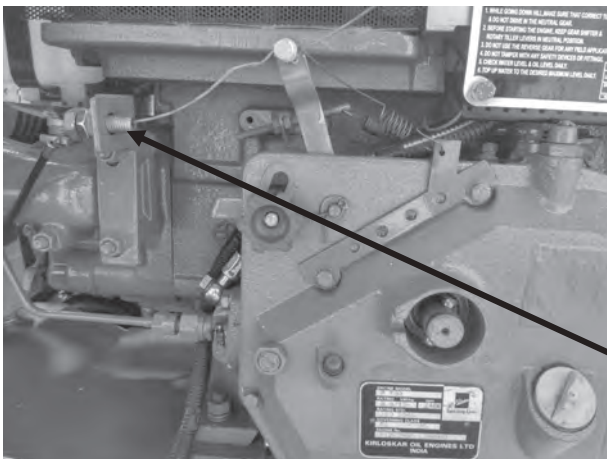
Steering lever lock nut

#### Caution:

Don't use steering levers on slope.

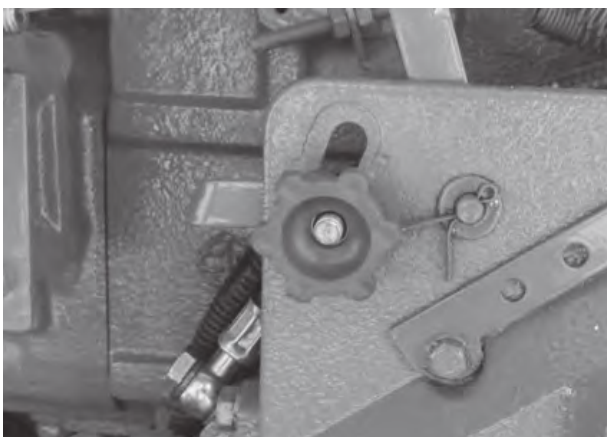
#### 8.5 Throttle Control System adjustment

- Start the engine and loosen control yoke lever screw and hold cable. Now keep throttle lever at minimum position i.e. towards engine.



Setting Screw

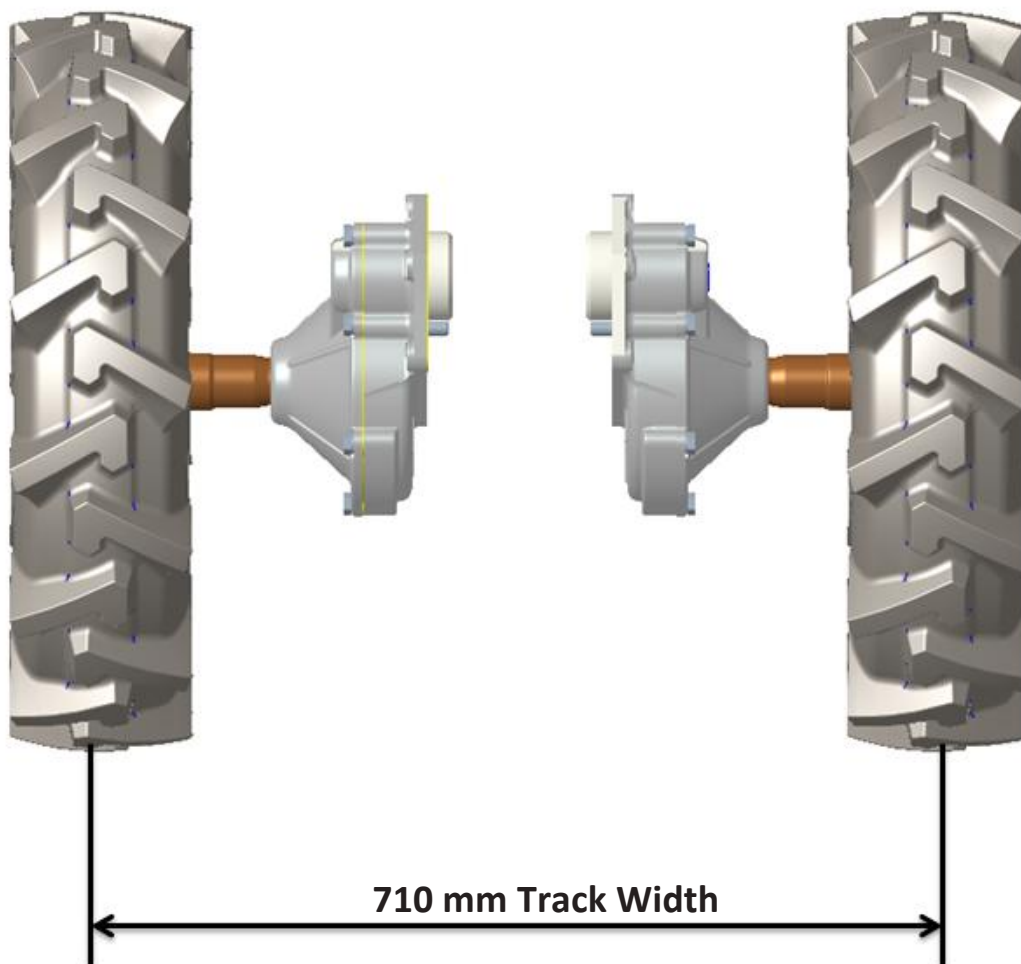
- Move speed control knob to obtain a stable idle, below the speed at which the tiller tines begin to turn.



- Pull or stretch accelerator cable and retighten the screw.
- Prepare the Accelerator assembly on engine side.
- Join the cable through the nut, accelerator cable.
- Keep Accelerator control assembly at lower most position.
- Keep setting screw at mid position.
- Tight the screw or nut accelerator cable and ensure that there is no float and no load on steering cable.

### 8.6 Wheel Track Width Changing Procedures

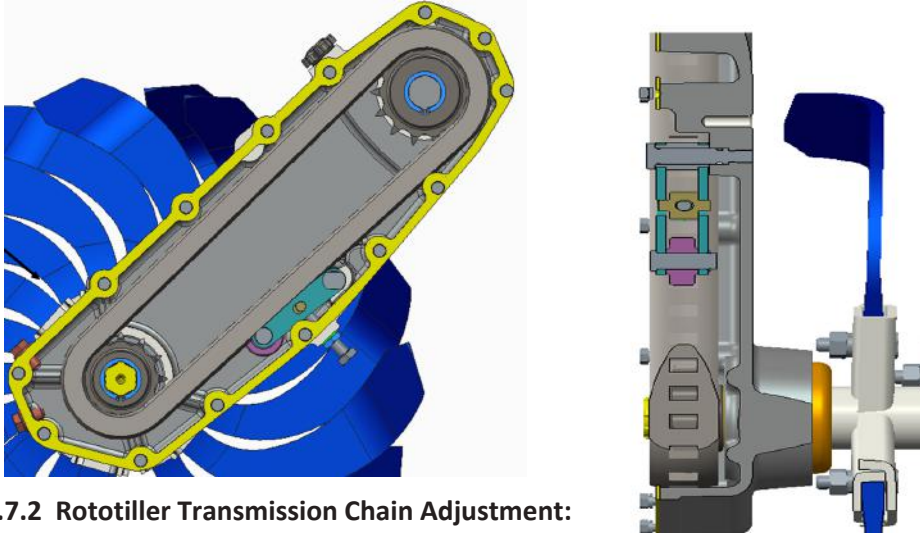
- Two different track widths can get in this machine according to operators need.
- 735 mm track width is as per company standards.
- To avail lesser track width of 683 mm, interchange the wheels (LH wheel to right side and RH wheel to left side as a complete assy).



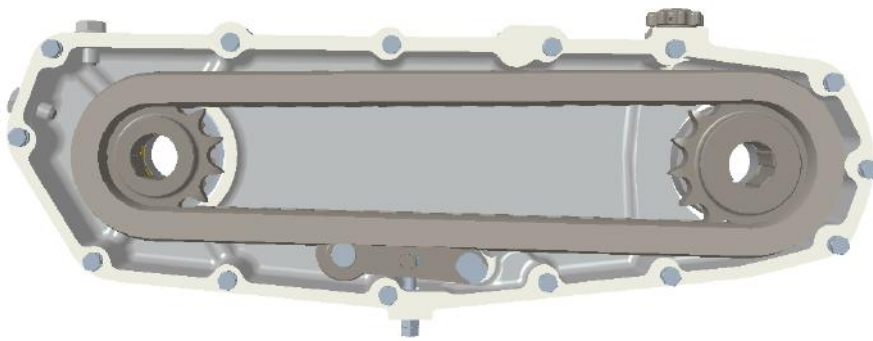
## 8.7 Transmission Chain Adjustment

### 8.7.1 Main transmission chain

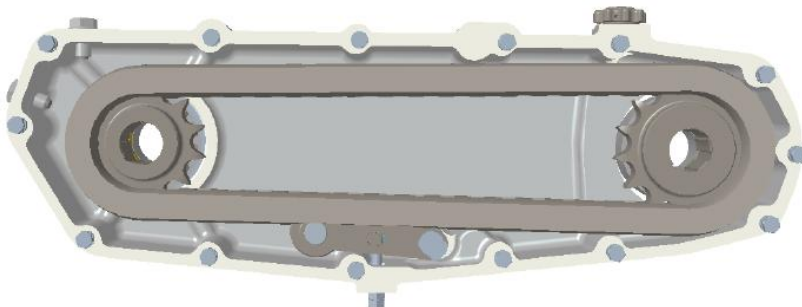
- Check out for transmission main chain worn out condition.
- To adjust chain tension, loosen or tighten adjustment bolt provided on housing chain transmission.



### 8.7.2 Rototiller Transmission Chain Adjustment:



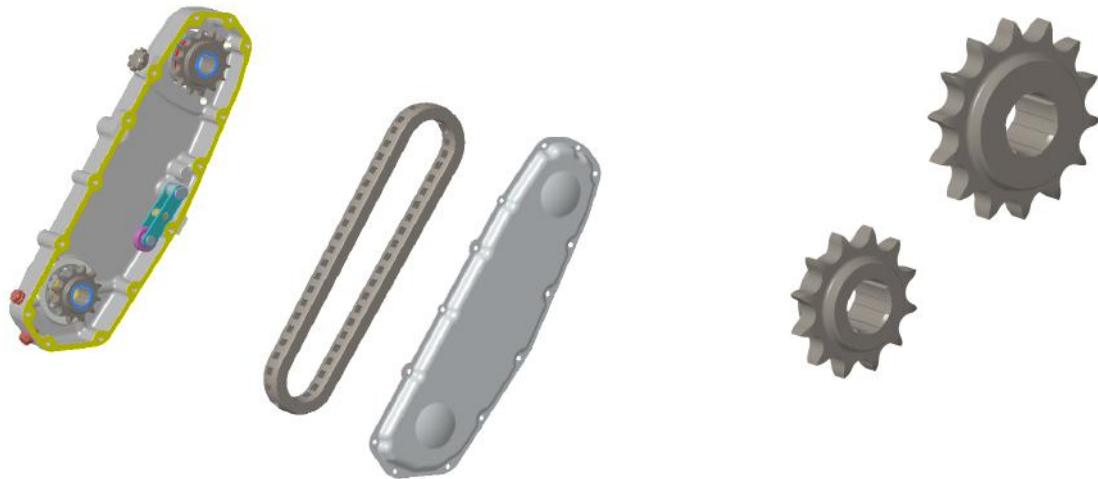
### 8.7.3 Rototiller Transmission Chain Adjustmentfor SCC Models (12 HP



Single Chain

- Checks needs only when abnormal noise observed from chain case box.
- Chain tension is self-adjustable supported by auto adjustable tensioner.
- To check noise, remove rototiller chain cover first inspect for any wear & tear.
- If found any abnormality, consult our authorised dealers only.

## 8.7.4 Rototiller Shaft Speed Changing Procedure



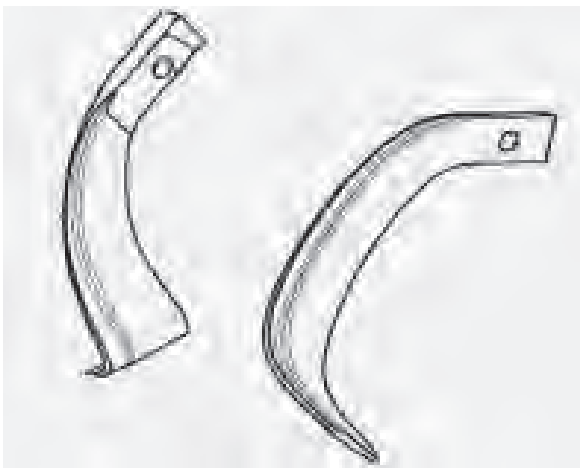
- Operator can avail two different speeds of tiller shaft by interchanging chain sprocket.
- Remove rototiller chain cover; remove sprocket circlip, rototiller transmission chain and sprockets.
- Interchange chain sprockets & reassemble the unit by reversing of remove process.

**Note:**

Before reassemble, clean transmission chain, sprocket and inspect gasket for clear sealing to avoid further oil leakage.

## 8.8 Tiller Shaft blade mounting sequence and blade types

### Blade Types



- For better soil pulverisation in wet and dry land, hatchet type blade is provided.
- As shown in fig. blade cutting edge towards right is RH blade and cutting edge towards left is LH blade.



### 8.8.1 Blade mounting sequence on tiller shaft



Rototiller Shaft with Single Hole

### 8.8.2 Double hole blades with rototiller shaft for SCC Models (12 HP)



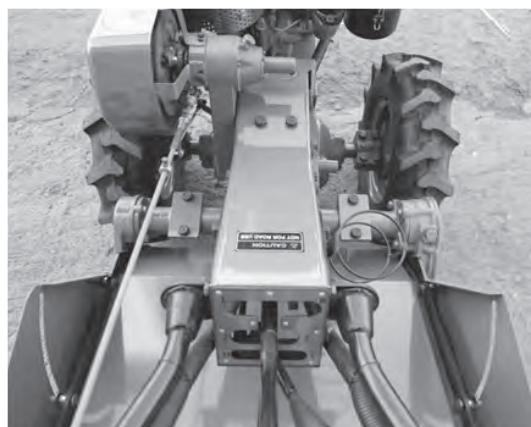
Mix Mode



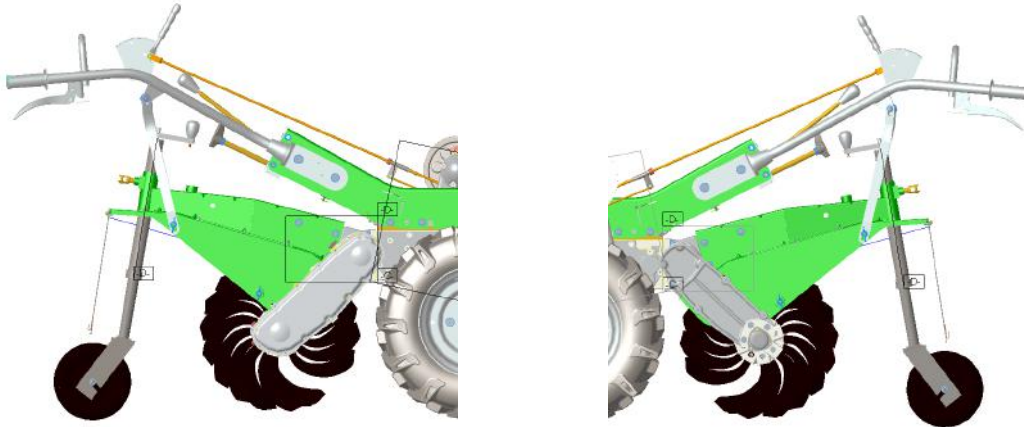
Earthing-Up

- Please follow blade mounting sequence on shaft as shown in fig.

### 8.8.3 Centralized rotor assembly (12 HP)



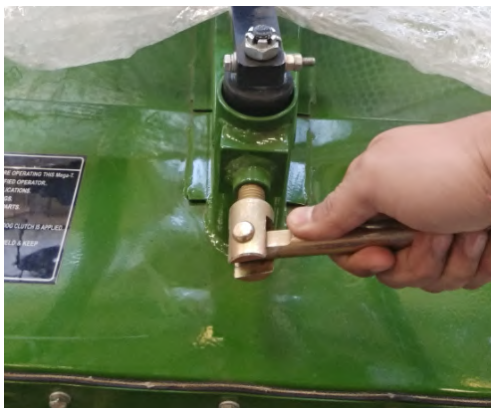
## 8.8.4 Special Designed Side Panel, Brace Plate and Chain Cover for (12 HP)



- Get better earthing up in sugarcane operation.

## 8.9 Height & Position Setting Working Depth

- To adjust the tilling depth, turn the handle of the tail wheel.
- If the desired tilling depth is not available then loosen tail wheel sleeve clamp and adjust the position of sleeve to increase depth.



## 8.10 Rototiller Reverse Locking

- While reversing Mega T, rototiller shaft should not rotate.
- Locking mechanism is provided in machine to prevent it from rotating.
- When transmission lever is kept in reverse slot, it moves reverse locking lever in neutral position, where it restricts the movement of rototiller Hi-Low lever.

**Note:** - warranty will get void if reverse locking tempered.

## 9. Maintenance Schedule

9.1 Maintenance Chart								
	Daily		Free Service Period				Frequency	
	Before Use	After use	8 hrs.	50 hrs./ 1 month	150 hrs./ 5 month	300 hrs./ 10 month	150 hrs./ 5 month	300 hrs./ 10 month
Clean Crank case				C	C	C	C	
Engine oil	I				R	R	R	
Nozzle and fuel pump						I		I
Lubricating Oil strainer				C	C	C	C	
Fuel filter				C	R	R	R	R
Clean Fuel tank						C		C
Clean Air cleaner	I			C	C	C	C	
Valve clearance (adjust if necessary)				I	I	I		I
Cylinder head bolts				I/T	I/T	I/T		I/T
External tiller bolts	I/T			I/T	I/T	I/T		
Main Gear Box Oil					I/F	R		R
Chain case oil					I/F	R		R
Rototiller shaft ends	I/C			I/C	I/C	I/C		
cam lever	I							
Tension pulley	I/A			I/A	I/A	I/A		
Main clutch thrust bearing	I/C, L			I/C, L	I/C, L	I/C, L		
Joints of all control lever	I/L	C/L		C/L	C/L	C/L		
Blade fitting Nuts and Bolts	I/T							
Wheel Hub Bolts	I/T			I/T	I/T	I/T		
Transmission V-belt	I/A			I/A	I/A	I/A		
Tyre Pressure	I/A							
Head Light	I							
Coolant	I/F							
Radiator fan Belt	I/A			I/A	I/A	I/A		
Injector Pressure and timing					I	I	I	I
Oil pressure Indicator	I			I	I	I		
Breather (Gear box )	I/C	I/C		I/C	I/C	I/C		
Grease on LH bearing housing on Rotor.				R	R	R	R	
Brake Fluid	I/F		I/F					
Grease, Seat height adjusting screw				I/L	I/L	I/L	I/L	
adjust tension of the side clutch	I/A			I/A	I/A	I/A		
Main clutch free play	I/A			I/A	I/A	I/A		
Parking Brake position adjustment	I/A			I/A	I/A	I/A		
Grease in Tail wheel hub				I/L	I/L	I/L		

C-Clean

I-inspect

R-Replace

T-Torque

A-Adjust

L-Lubricate

F-Fill/Top-up



## 9.2 Lubrication Specification Chart

USE ONLY KOEL RECOMANDED OIL & LUBRICATS				
Sl. No.	LUBRICANTS TYPE	SPECIFICATIONS	QUANTITY	Replacement
1	ENGINE OIL	SAE 15W- 40, CF-4	1.3 LTS	150 Hrs or 5 months
2	TRANSMISSION OIL	SAE 80W-90, GI-4	7.5 LTS	300 Hrs or 10 months
3	AIR CLEANER	SAE 15W- 40, CF-4	0.15 LTS	
4	BRAKE FLUID	DOT 3	0.10 LTS	
5	GREASE	API MULTI PURPOSE	NA	50 Hrs or 1 month
6	COOLANT	NA	NA	

## 9.3 Free Service Schedule

Free Service recommended with following schedule (Month or Hours of usage whichever is earlier)				
Sl. No.	Free Service	Month	Total Hours used	Date of Sale
1	1 <sup>st</sup> Free Service	1	50 Hrs.	
2	2 <sup>nd</sup> Free Service	5	150 Hrs.	
3	3 <sup>rd</sup> Free Service	10	300 Hrs.	

## 9.4 Engine Maintenance

### 9.4.1 Engine Oil Change Procedure

- Place MEGA T on flat surface, remove sump drain plug & engine oil filler cap.
- Drain out completely old/used oil and collect it in a container.

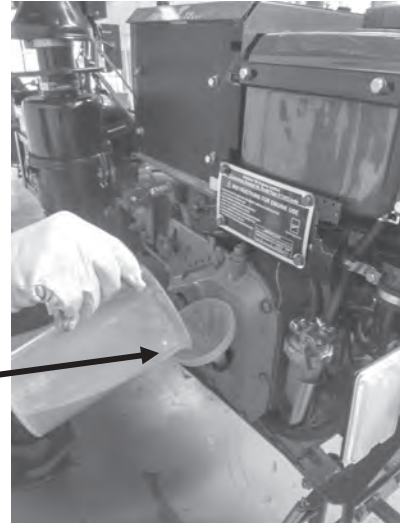


Open the drain plug through 19 mm spanner

- Do this exercise, while engine is in warm condition (during warm oil drains quickly and completely).
- After complete oil drain out, reinstall oil drain plug and tighten.

Pour recommended, new engine oil into the engine over engine oil filler cap. Use funnel to avoid oil spilling.

Fill the New Engine oil



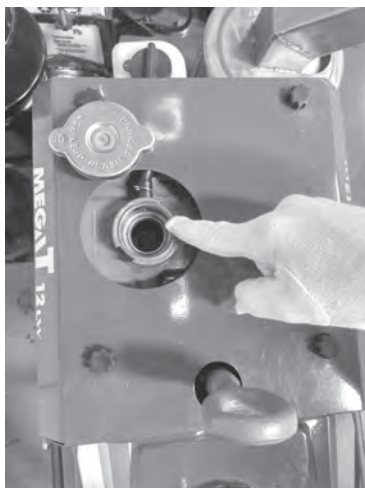
- Reinstall oil filler cap & tighten.
- Check and ensure, whether engine oil level is correct, by inserting oil dipstick.
- After completing the process, start engine for 2-3 minutes for complete oil circulations.

## 9.5 Engine Cooling System

### 9.5.1 Engine cooling fins cleaning procedure

- Remove side fins inspection cover.
- Check for any dust or fragments accumulation on cooling fins.
- Use hand operated hand pump or low pressure air to clean cooling fins.
- Reinstall cooling fins inspection cover.

### 9.5.2 Engine cooling water level check & top up procedure



- Step 1 - Open radiator cap and pour coolant/ soft water in radiator when engine is cold.
- Step 2 - Start engine and keep it running for 5 minutes.
- Step 3 – Switch off engine and wait till engine cools down. Open radiator cap and top up coolant/ soft water if required.

## 9.6 Air filter oil change & cleaning procedure



- Step 1 - Loosen air filter clamps, separate oil bath bowl & filter element.



- Step 2 - Dispose old oil from bowl & wipe out dust particles from bowl by use of clean cloth.
- Step 3 - Fill new recommended oil into the oil bath bowl.



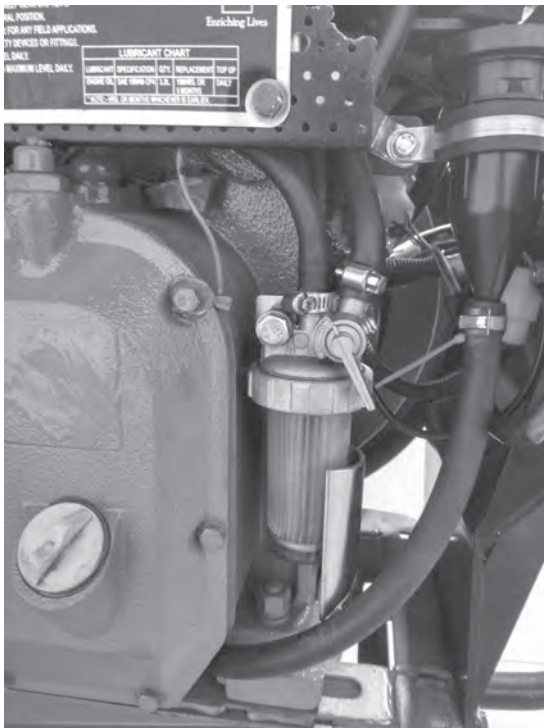
- Step 4 - Clean filter elements with diesel or kerosene & reinstall. If filter elements are damaged, replaced with new one.



- Step 5 - Reinstall oil bath bowl & tighten filter bowl clamps.

**Note:** Operating engine with dusty oil or damaged filter element causes engine performance.

## 9.7 Fuel filters change procedure



- Turn off fuel supply knob & disconnect fuel supply main line.
- Remove filter mounting bolt & mounting cover body.
- Separate filter bowl & filter paper insert.
- Wipe filter body with clean cloth.
- Replace fuel filter paper insert with new one.
- Reverse the procedure & reinstall filter mounting body.
- Turn ON fuel supply knob.

## 9.8 Transmission oil change procedure

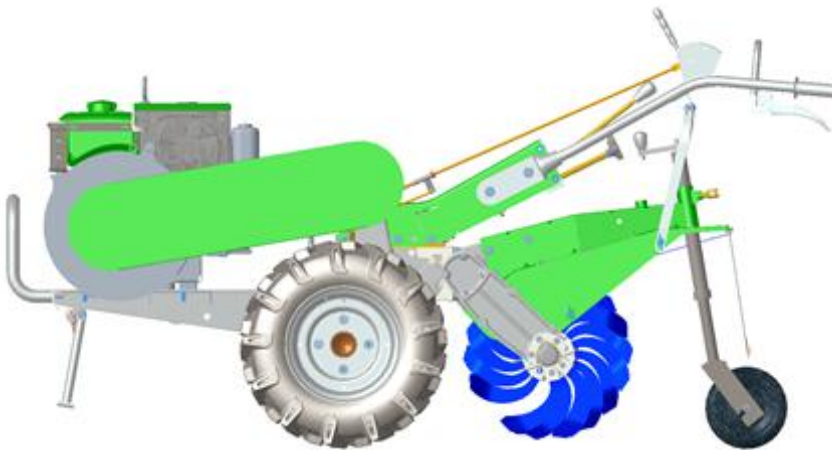


- Place MEGA T on flat surface & keep oil container tray at bottom of gear box to collect old oil.
- Drain out transmission oil by removing transmission & bull gear drain plugs.
- After complete oil drain out, reinstall all drain plugs.



- Remove transmission oil filler plug & pour recommended transmission oil into the gear box.
- Use oil filler gun or oil applicator to avoid oil spilling.
- After complete of process, reinstall oil filler plug.
- To check transmission oil level, remove oil level inspection plug provided at RH top side of gear box assy.

## 9.9 Tyre Air Pressure Specification Chart



- Drive Tyres air pressure:
  - For Field – 1.6 Kg/cm<sup>2</sup>
  - For Road – 2.0 Kg/cm<sup>2</sup>
- Tail Wheel– 2.0 Kg/cm<sup>2</sup>

## 10. Troubleshooting Engine

<b>A. Engine Fails to Start</b>	
<b>Cause</b>	<b>Remedy</b>
1. Unsteady fuel flow	Check the fuel tank and the element of the fuel filter whether there is any water or dirt. Clean the element in clean fuel if it is choked with dirt, or clean the fuel tank and fill it with clean fuel of recommended grade if any water is found in the tank.
2. Air in the fuel pipe line	Release air and then tighten all fuel pipe connections.
3. Fuel injection timing incorrect	Adjust according to the recommended procedure.
4. Valve clearance incorrect	Adjust according to the recommended procedure.
5. Insufficient compression in the cylinder	Check valve seat leakage & take necessary action.
6. Pumping element (plunger and barrel) of the injection pump or injector nozzle worn-out	Check Injector & FIP

<b>B. Engine Does Not Develop Full Power</b>	
<b>Cause</b>	<b>Remedy</b>
1. Insufficient compression in the cylinder	Proceed as item 6 under “Engine Fails to Start.” If parts are worn, in excess of the specified wear limit, then replacement should be made.
2. Fuel injection timing incorrect	Adjust according to the recommended procedure.
3. Valve clearance incorrect	Adjust according to the recommended procedure.
4. Air filter choked	Clean it in clean fuel or kerosene.
5. Engine speed too low or too high	Adjust the speed —control lever knob to make the speed attain its rated value.
6. Opening pressure of the injector incorrect	Replace the pumping element (plunger and barrel) of the injection pump, or injector nozzle, adjust the opening pressure of the injector to 248 kg/cm <sup>2</sup> .

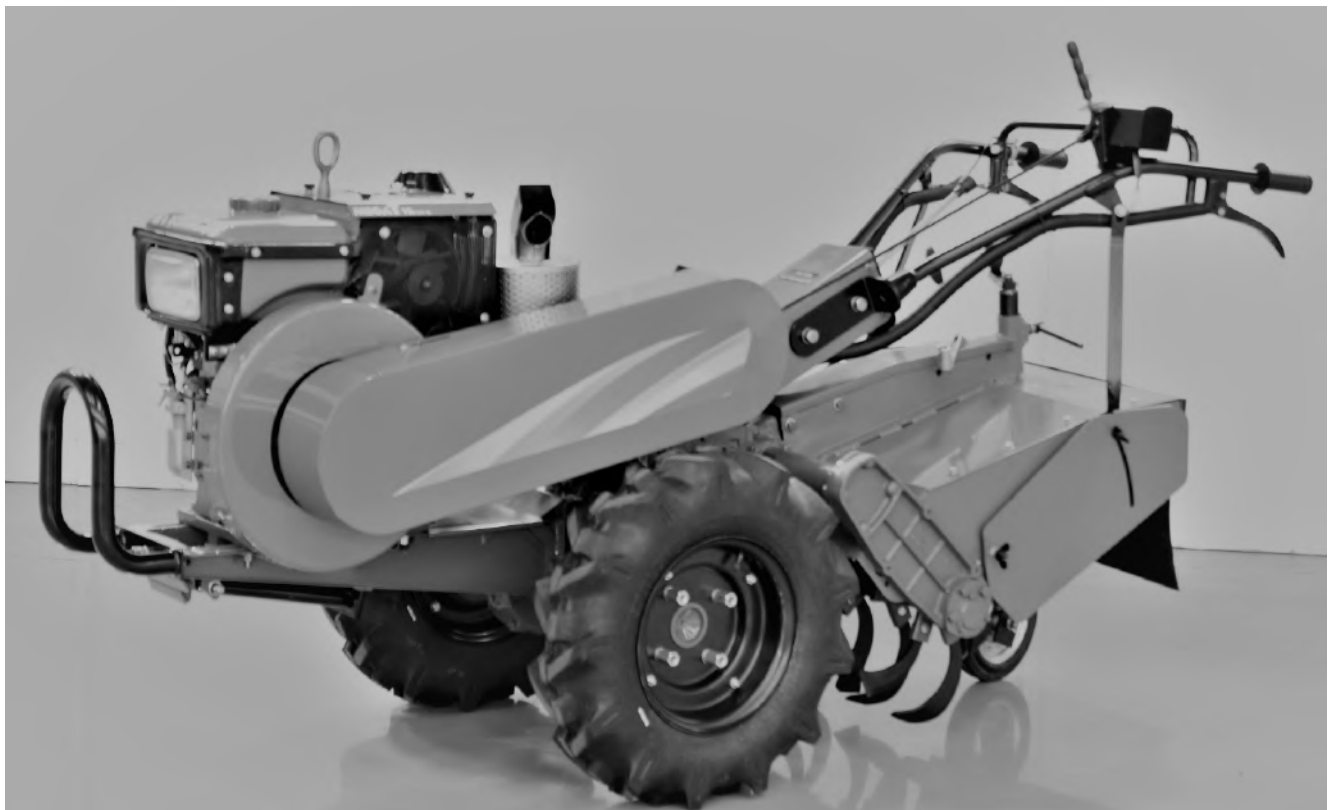
<b>C. Engine Exhausts Dense Black</b>	
<b>Cause</b>	<b>Remedy</b>
1. Engine overloaded	Reduce the load appropriately. If the belting or coupling with the driven machine is not right, correct it.
2. Faulty injector	Check the opening pressure of the injector and the atomization of the fuel spray. Correct it if necessary, or replace it if worn.
3. Incomplete combustion	This results mainly from faulty injector, incorrect fuel injection timing, leakage through the cylinder head gasket and from insufficient compression, etc. Remedy whatever the real cause maybe.

## 11. Troubleshooting Transmission

<b>Problem</b>	<b>Cause</b>	<b>Remedy</b>
<b>Gear Shifting Hard</b>	Clutch Throw Out Lever Free Play	Adjust Clutch free play as recommended.
	Clutch Plate Worn out	Check Clutch Plates, if found worn replace it.
	M6 Screw on Top Cover Loose	Check the screw for tightness. If loose tighten it.
	Gear Lever bend	Remove gear lever and check the rear end, if found bend replace it.
	Rail & Fork bend	Remove Rail, Fork and check for bends and damages, replace if found bend or damage.
<b>Gear Noisy</b>	Clutch Throw Out Lever Free Play	Adjust Clutch free play as recommended
	Clutch Plate Worn out	Check Clutch Plates, if found worn replace it.
	Gear Lever bend	Remove gear lever and check the rear end , if found bend replace it.
	Fork Spring & Ball	Check Spring tension if found loose replace it. Check balls if found damage replaces it.
	Rail & Fork bend	Check Rail & Fork for bend / damages replace if required.
	Gear teeth damage	Check the gear teeth for damages. If found replace it.
<b>Gear Not Engaging</b>	Clutch Throw Out Lever Free Play	Adjust Clutch free play as recommended
	Clutch Plate Worn out	Check Clutch Plates, if found worn replace it.
	Gear Lever bend	Remove gear lever and check the rear end, if found bend replace it.
	Fork Spring & Ball Damage	Check Spring tension if found loose replace it. Check balls if found damage replaces it.
	Rail & Fork bend	Check Rail & Fork for bend / damages replace if required.







## Engine Parts Catalogue

**MEGA T**  
*Revolutionary Farm Machine*

Farm Mechanisation Business Unit







**Parts Catalogue for  
KMW Mega T 12 LW- S**

**MEGA T**  
*Revolutionary Farm Machine*



## INDEX

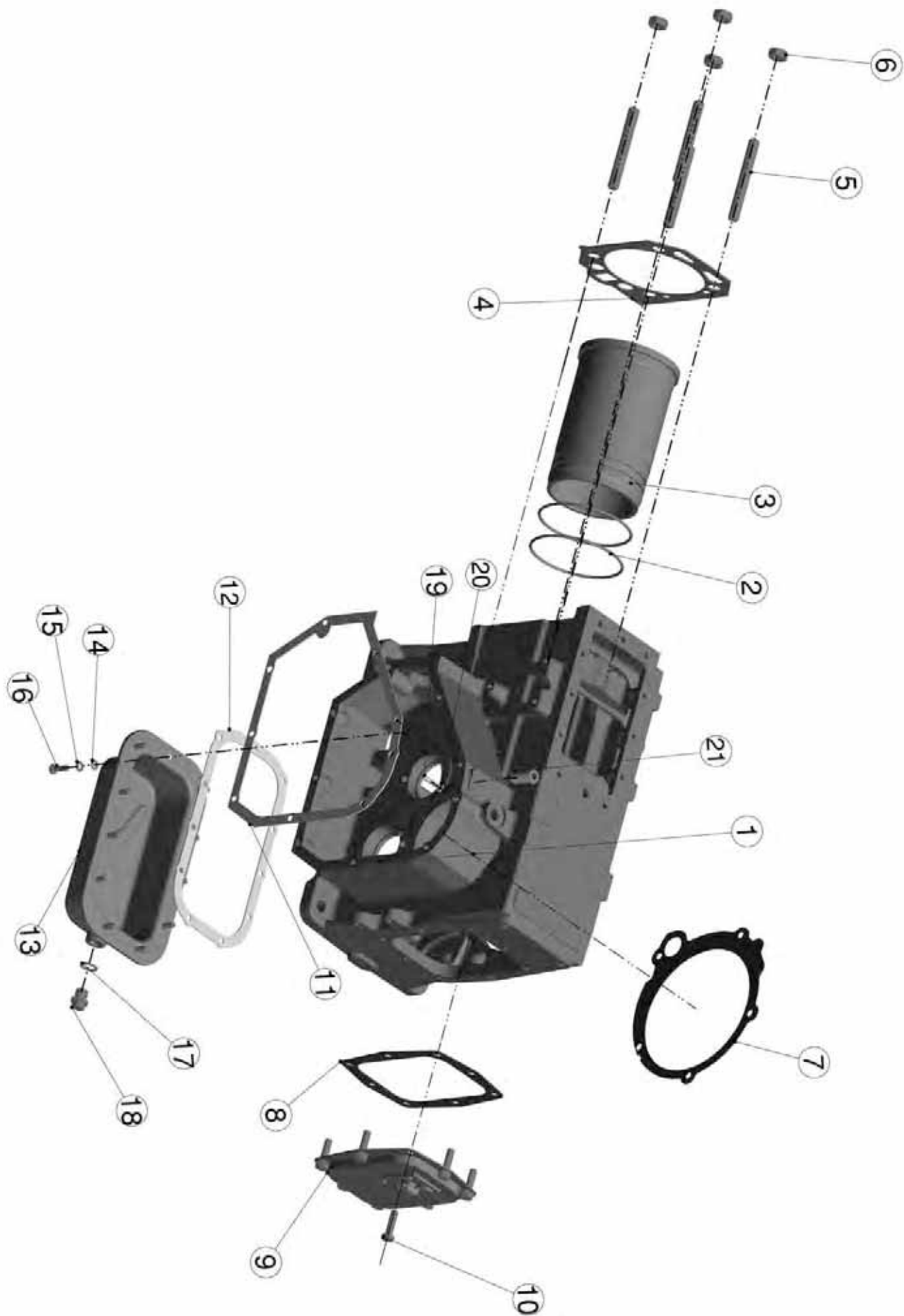
SR NO	NAME	ASSEMBLY CODE	PAGE NO.
1	CYLINDER BLOCK ASSEMBLY (CRANK CASE)	P12.0301	1-2
2	RADIATOR COOLING SYSTEM	P12.0315	3-4
3	FAN ASSEMBLY	P15.0215	5-6
4	TRANSMISSION ASSEMBLY	P15.0216	7-8
5	CYLINDER HEAD ASSEMBLY	P12.0304	9-10
6	PISTON AND CONNECTING ROD ASSEMBLY	P12.0305	11-12
7	CRANKSHAFT AND FLYWHEEL ASSEMBLY	P12.0308	13-14
8	CAMSHAFT ASSEMBLY	P12.0303	15-16
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15	CCV UNIT ASSEMBLY	P12.0301.080.0.PR	29-30

■ Items screened with grey colour will not be supplied.

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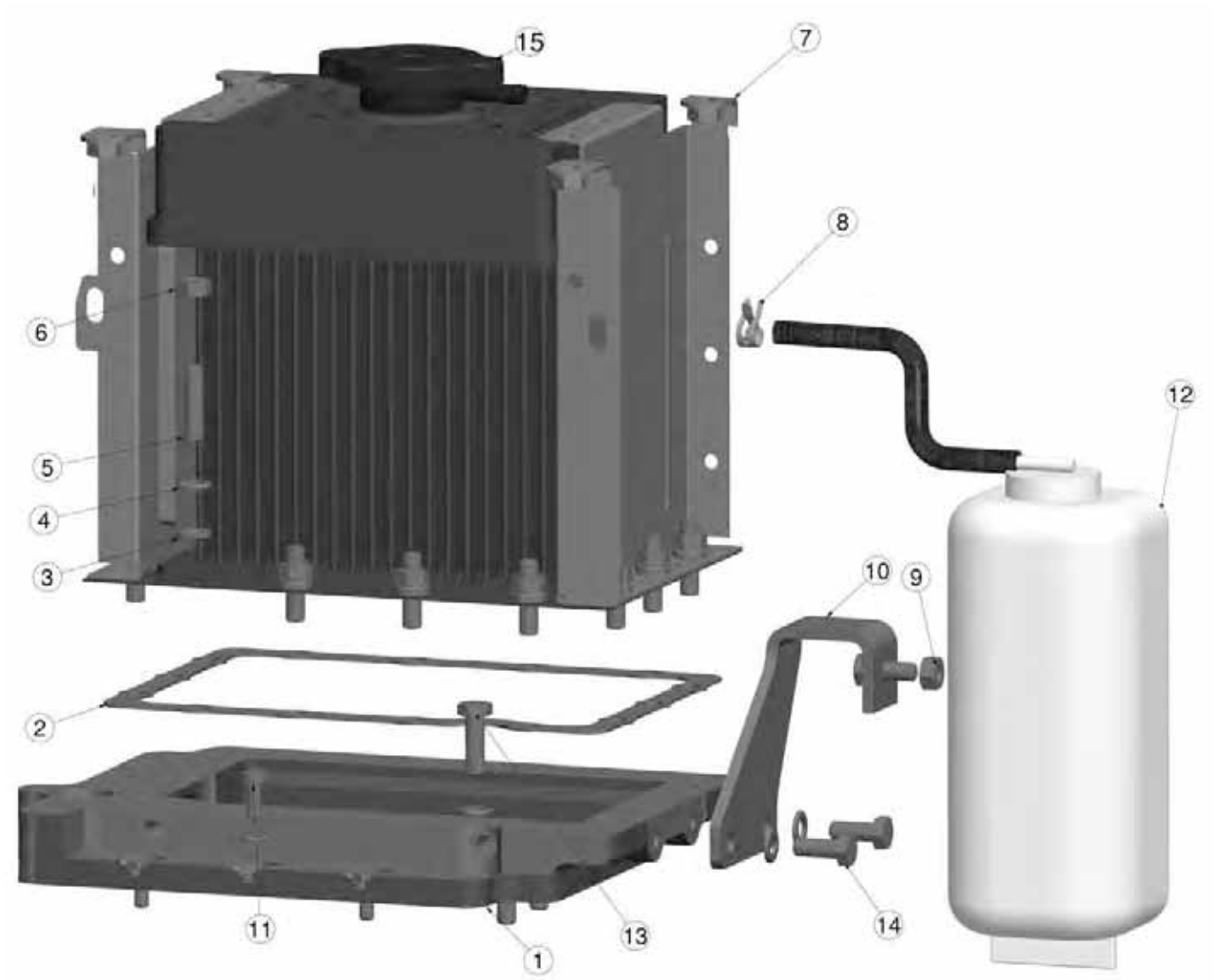
As continuous improvements are contemplated the illustrations and descriptions are not binding.

CYLINDER BLOCK ASSEMBLY (CRANK CASE)



### CYLINDER BLOCK ASSEMBLY (CRANK CASE)

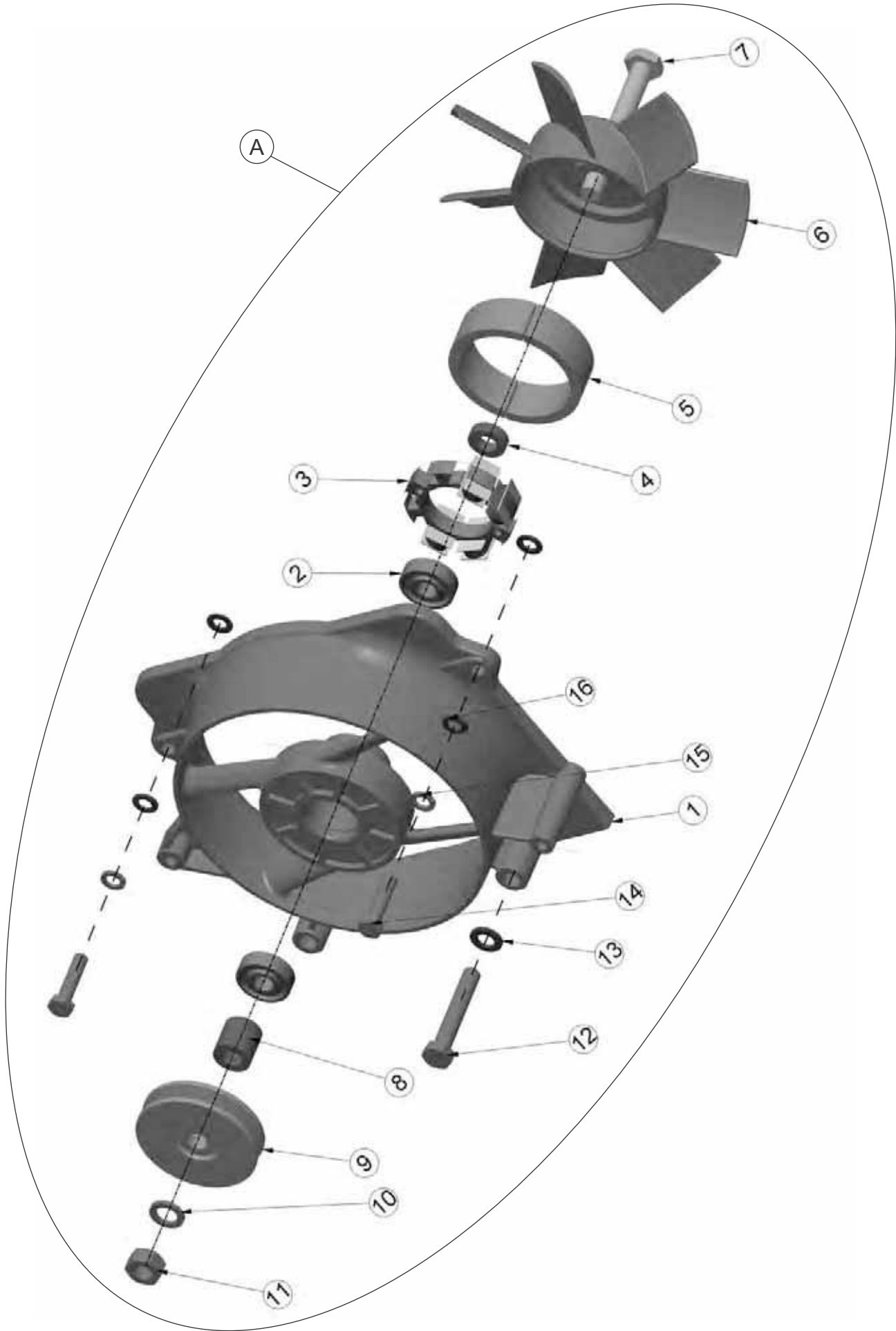
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1	P12.0301.001.0.PR	CYLINDER BLOCK FOR POWER TILLER	1
2	P12.0301.015.0.PR	CYLINDER LINER O RING FOR POWER TILLER	2
3	P12.0301.003.0.PR	CYLINDER LINER FOR POWER TILLER	1
4	P12.0304.002.0.PR	CYLINDER HEAD GASKET FOR POWER TILLER	1
5	P12.0301.017.0.PR	CYLINDER HEAD STUD FOR POWER TILLER	4
6	P50.006.14.000	CYLINDER HEAD NUT FOR POWER TILLER	4
7	P12.0302.017.0.PR	PACKING FOR MAIN BEARING HOUSING FOR POWER TILLER	1
8	P12.0302.002.0.PR	PACKING FOR REAR COVER FOR POWER TILLER	1
9	P12.0301.029.0.PR	REAR COVER ASSEMBLY FOR POWER TILLER	1
10	P50.002.06.020	BOLT M6X20 FOR POWER TILLER	8
11	P12.0301.009.0.PR	PACKING FOR GEAR CASING COVER FOR POWER TILLER	1
12	P12.0301.023.0.PR	PACKING FOR OIL SUMP FOR POWER TILLER	1
13	P12.0311.016.0.PR	OIL SUMP FOR POWER TILLER	1
14	P50.506.06.000	PLAIN WASHER M6 FOR POWER TILLER	11
15	P50.505.06.000	SPRING WASHER M6 FOR POWER TILLER	11
16	P50.002.08.020	BOLT M8X10 FOR OIL SUMP FOR POWER TILLER	11
17	P50.506.08.000	WASHER M8 OF OIL SUMP FOR POWER TILLER	1
18	P50.602.14.000	DRAIN PLUG OF OIL SUMP FOR POWER TILLER	1
19	P12.0301.044.0.PR	DOWEL M7X14 FOR POWER TILLER	1
20	P12.0301.043.0.PR	O RING 10X1.8 FOR POWER TILLER	1
21	P12.0301.045.0.PR	DOWEL M16X30 FOR POWER TILLER	1





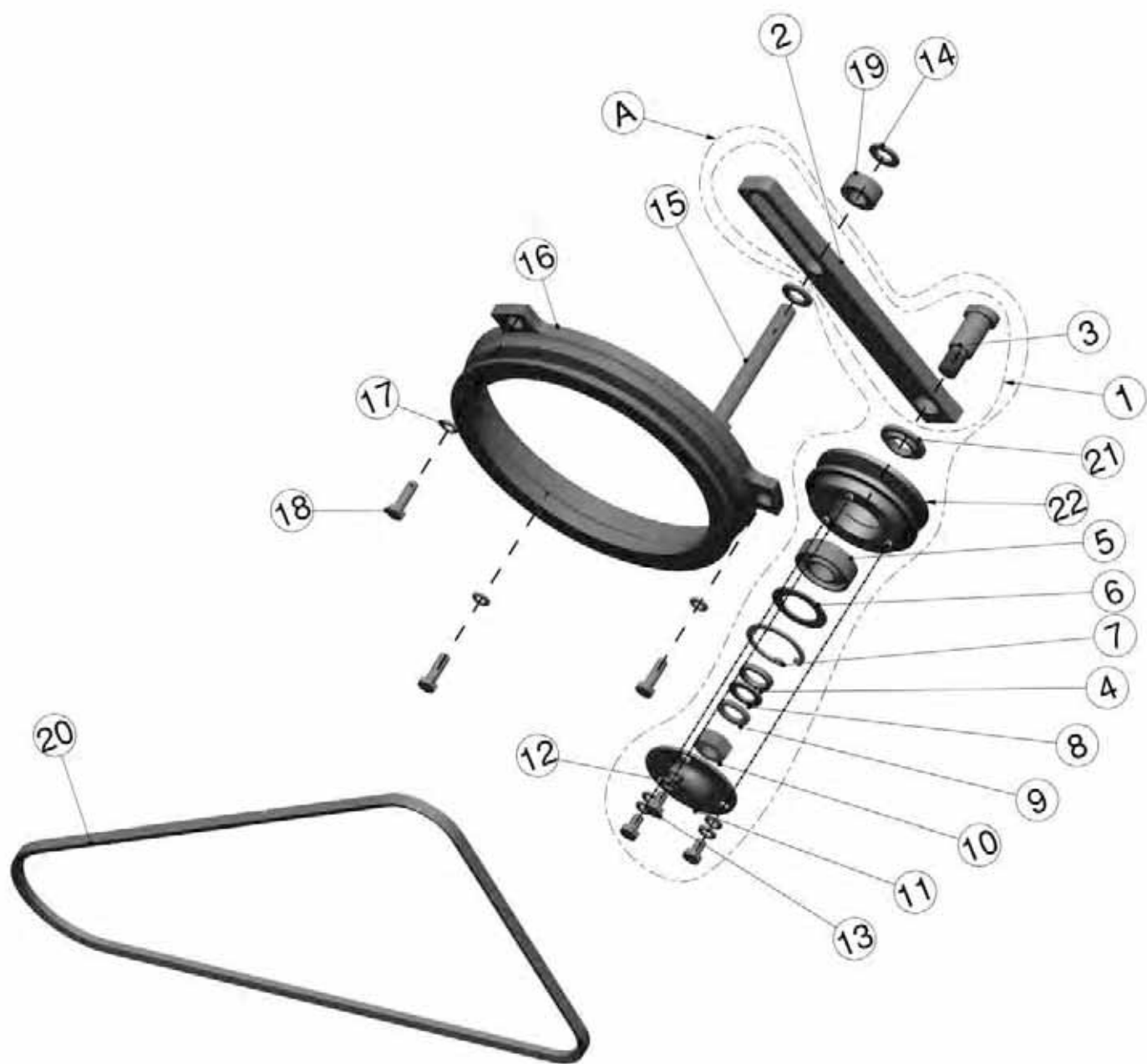
## RADIATOR COOLING SYSTEM

Sr. No.	Item	Description	Qty
1	P12.0315.017.0.PR	BASE PLATE FOR POWER TILLER	1
2	P12.0315.019.0.PR	GASKET FOR POWER TILLER	1
3	50.505.08.000	SPRING WASHER M8 FOR POWER TILLER	14
4	50.506.08.000	PLAIN MACHINED WASHER M8 FOR POWER TILLER	17
5	50.010.08.016	STUD M8X1.25X16 FOR POWER TILLER	14
6	50.006.08.000	NUT M8 FOR POWER TILLER	14
7	P12.0315.018.0.PR	RADIATOR FOR POWER TILLER	1
8	02.500.08.0.00	CLAMP FOR POWER TILLER	1
9	50.006.08.000	NUT M8X1.25 FOR POWER TILLER	1
10	P12.0315.022.0.PR	BRACKET FOR BOTTLE FOR POWER TILLER	1
11	50.003.06.016	BOLT M6 FOR POWER TILLER	6
12	4H.762.03.0.PR	RECOVERY BOTTLE FOR POWER TILLER	1
13	50.003.08.020	BOLT M8X1.25X20 FOR POWER TILLER	3
14	50.003.08.025	BOLT M8 X 1.25 X 25 FOR POWER TILLER	2
15	P12.0315.015.0.PR	RADIATOR CAP FOR POWER TILLER	1
*	02.1216.01.0.00	WIRING HARNESS TIE TAG FOR POWER TILLER	1
*- NOT SHOWN IN FIGURE			



## FAN ASSEMBLY

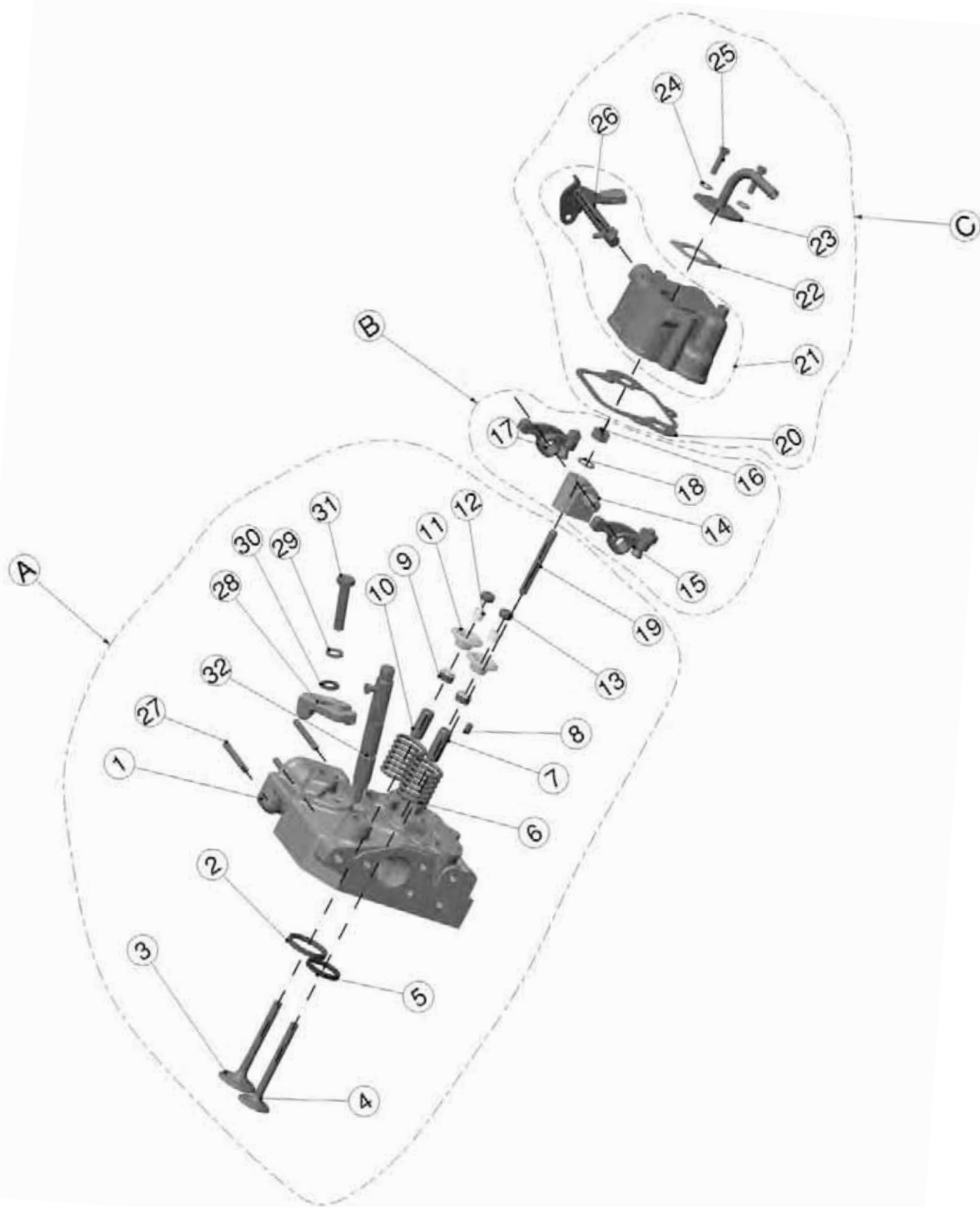
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2	P15.0315.004.0.PR	BALL BEARING (6201) FOR POWER TILLER	2
3	P15.0315.011.0.PR	ARMATURE FOR POWER TILLER	1
4	P15.0315.007.0.PR	ADJUSTING SHIM FOR POWER TILLER	1
5	P15.0315.010.0.PR	ELEC. PART IN FAN ASSEMBLY FOR POWER TILLER	1
6	P15.0315.003.0.PR	IMPELLER FOR POWER TILLER	1
7	P15.0315.006.0.PR	FAN SHAFT FOR POWER TILLER	1
8	P15.0315.009.0.PR	SPACER FOR FAN PULLEY FOR POWER TILLER	1
9	P15.0215.018.0.PR	FAN PULLEY EXCLUSIVELY FOR POWER TILLER	1
10	P50.505.12.000	SPRING WASHER M12	1
11	P50.006.12.000	HEX. NUT M12	1
12	P50.002.10.065	HEX BOLT M10X65	1
13	P50.006.10.000	PLAIN MACHINED WASHER M10	1
14	P50.002.08.025	HEX BOLT M8	1
15	P50.005.08.000	SPRING WASHER M8	2
16	P50.006.08.000	PLAIN MACHINED WASHER M8	4



## TRANSMISSION ASSEMBLY

Sr. No.	Item	Description	Qty
<b>A</b>	P15.0350.020.0.PR	TENSION PULLEY ASSEMBLY	1
1	P12.0316.003.0.PR	TRANSMISSION ASSEMBLY FOR POWER TILLER	1
2	P12.0316.002.0.PR	TENSION PULLEY BRACKET	1
3	P15.0316.001.0.PR	TENSION PULLEY SHAFT	1
4	P15.0316.006.0.PR	RING FOR POWER TILLER	1
5	P15.0516.011.0.PR	BALL BEARING (6202 ZZ)	1
6	P15.0516.009.0.PR	SEAL RING	1
7	50.502.35.000	CIRCLIP (INTERNAL)	1
8	57.505.12.000	WASHER 12	1
9	57.506.12.000	WASHER 12-140 HV (GB/T97.1)	1
10	50.006.12.000	HEX. NUT	1
11	P15.0316.007.0.PR	COVER FOR POWER TILLER	1
12	57.506.06.000	PLAIN MACHINED WASHER	6
13	50.003.06.010	SET SCREW OF COARSE PITCH	3
14	P57.506.10.000	PLAIN MACHINED WASHER	2
15	P50.002.10.085	BOLT COARSE PITCH	1
16	P12.0307.016.0.PR	BIG BELT PULLEY	1
17	57.506.06.000	PLAIN MACHINED WASHER - M6	3
18	P50.003.06.020	BOLT M6X20	3
19	P15.0516.015.0.PR	SPACER FOR POWER TILLER	1
20	P12.0316.008.0.PR	'V' BELT	1
21	P15.0516.014.0.PR	STEP WASHER	1
22	P15.0516.013.0.PR	TENSION PULLEY FOR POWER TILLER	1

## CYLINDER HEAD ASSEMBLY

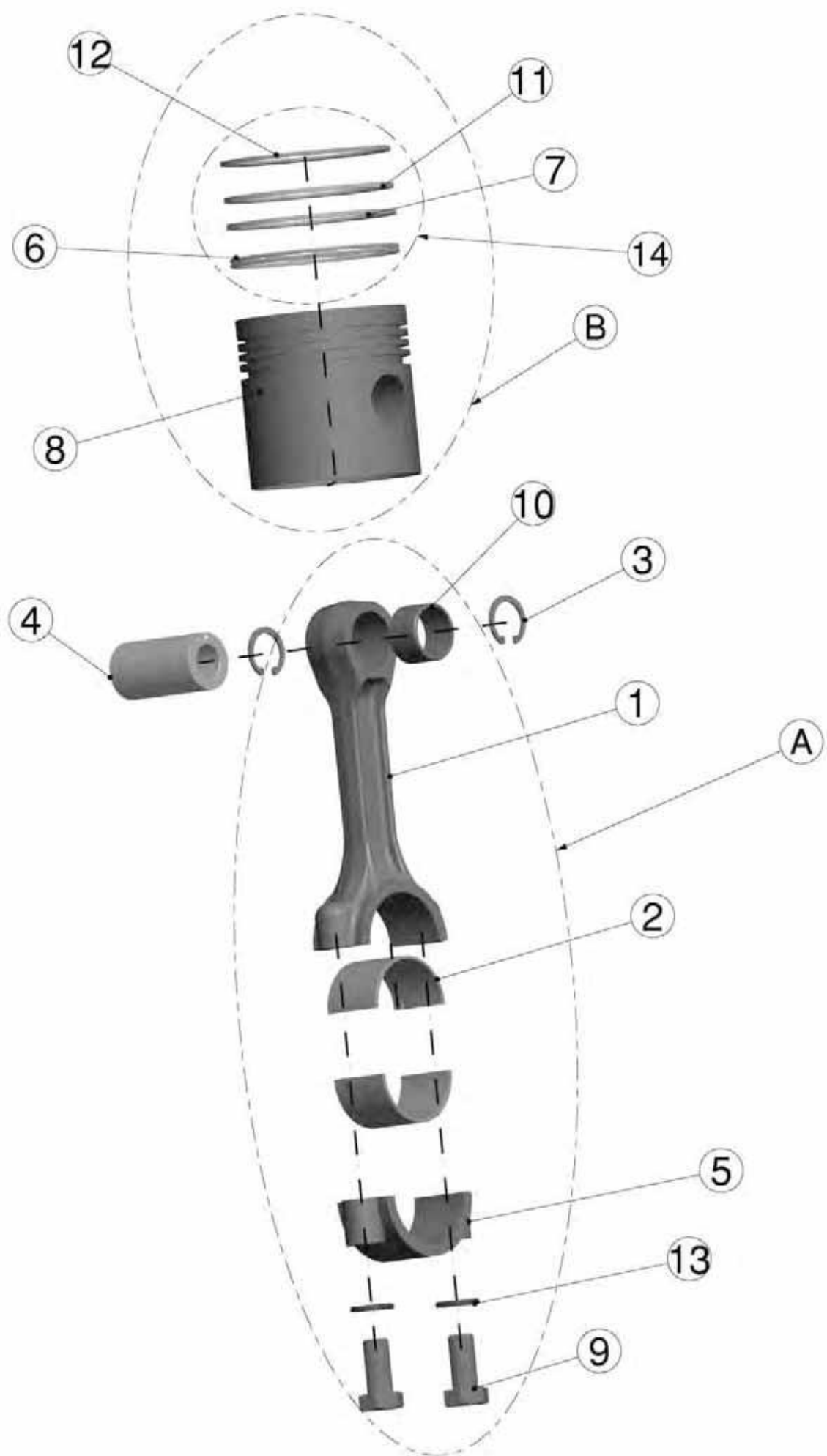


## CYLINDER HEAD ASSEMBLY

Sr. No.	Item	Description	Qty
<b>A</b>	P12.0304.030.0.PR	CYLINDER HEAD ASSEMBLY FOR POWER TILLER	1
	P12.0304.020.0.PR	CYLINDER HEAD ASSEMBLY WITH VG VSI	1
1	P12.0304.001.0.PR	CYLINDER HEAD FOR POWER TILLER	1
2	P12.0304.004.0.PR	SEAT FOR INTAKE VALVE FOR POWER TILLER	1
3	P12.0304.009.0.PR	INTAKE VALVE FOR POWER TILLER	1
4	P12.0304.011.0.PR	EXHAUST VALVE FOR POWER TILLER	1
5	P12.0304.005.0.PR	SEAT FOR EXHAUST VALVE FOR POWER TILLER	1
6	P12.0304.033.0.PR	OUTER VALVE SPRING FOR POWER TILLER	2
7	P12.0304.008.0.PR	VALVE GUIDE (EXHAUST) FOR POWER TILLER	1
8	P12.0304.034.0.PR	DOWEL M6X12 FOR POWER TILLER	1
9	P12.0304.047.0.PR	STEM SEAL FOR POWER TILLER	2
10	P12.0304.003.0.PR	VALVE GUIDE (INLET) FOR POWER TILLER	1
11	P12.0304.022.0.PR	VALVE SPRING SEAT FOR POWER TILLER	2
12	P12.0304.007.0.PR	VALVE COLLET FOR POWER TILLER	2
13	P12.0304.006.0.PR	VALVE CAP FOR POWER TILLER	2
19	50.010.10.050	STUD FOR POWER TILLER	1
27	50.010.08.065	STUD FOR INLET MANIFOLD	3
28	P12.0309.032.0.PR	INJECTOR CLAMP FOR POWER TILLER	1
29	P50.0505.10.000	SPRING WASHER M10 FOR POWER TILLER	1
30	P12.0104.051.0.PR	CUP WASHER FOR POWER TILLER	1
31	P50.010.10.045	BOLT M10 FOR POWER TILLER	1
32	P12.0309.040.0.PR	INJECTOR ASSEMBLY POWER TILLER	1
<b>B</b>	P12.0304.050.0.PR	ROCKER SUPPORT ASSEMBLY	1
14	P12.0304.014.0.PR	ROCKER SHAFT BRACKET FOR POWER TILLER	1
15	P12.0304.016.0.PR	ROCKER LEVER ASSEMBLY EXHAUST FOR POWER TILLER	1
16	50.008.10.000	NUT M8 FOR POWER TILLER	1
17	P12.0304.015.0.PR	ROCKER LEVER ASSEMBLY INLET FOR POWER TILLER	1
18	50.505.10.000	SPRING WASHER 10 FOR POWER TILLER	1
<b>C</b>	P12.0319	ROCKER COVER ASSEMBLY	1
	P12.0319.10.0.PR	ROCKER COVER SUB ASSEMBLY	1
20	P12.0319.016.0.PR	PACKING FOR CYLINDER HEAD COVER FOR POWER TILLER	1
21	P12.0319.001.0.PR	ROCKER COVER FOR POWER TILLER	1
22	P12.0304.025.0.PR	PACKING FOR SMALL COVER FOR POWER TILLER	1
23	P12.0319.017.0.PR	ROCKER COVER CAP FOR POWER TILLER	1
24	50.506.06.000	PLAIN WASHER M6 FOR POWER TILLER	2
25	50.003.06.012	BOLT M6X12 FOR POWER TILLER	2
26	P12.0319.020.0.PR	DECOMPRESSION LEVER ASSEMBLY FOR POWER TILLER	1

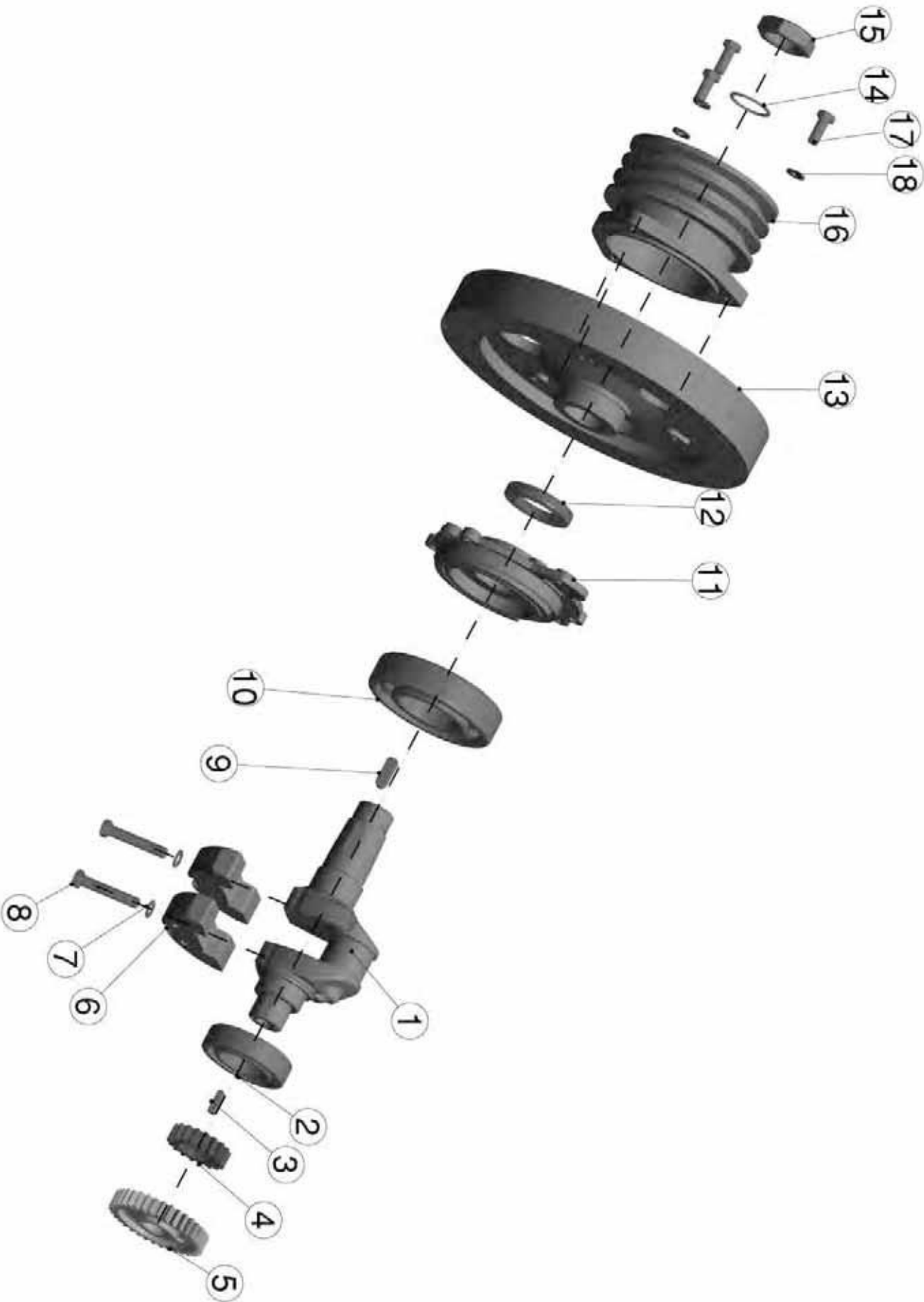


PISTON & CONNECTING ROD ASSEMBLY



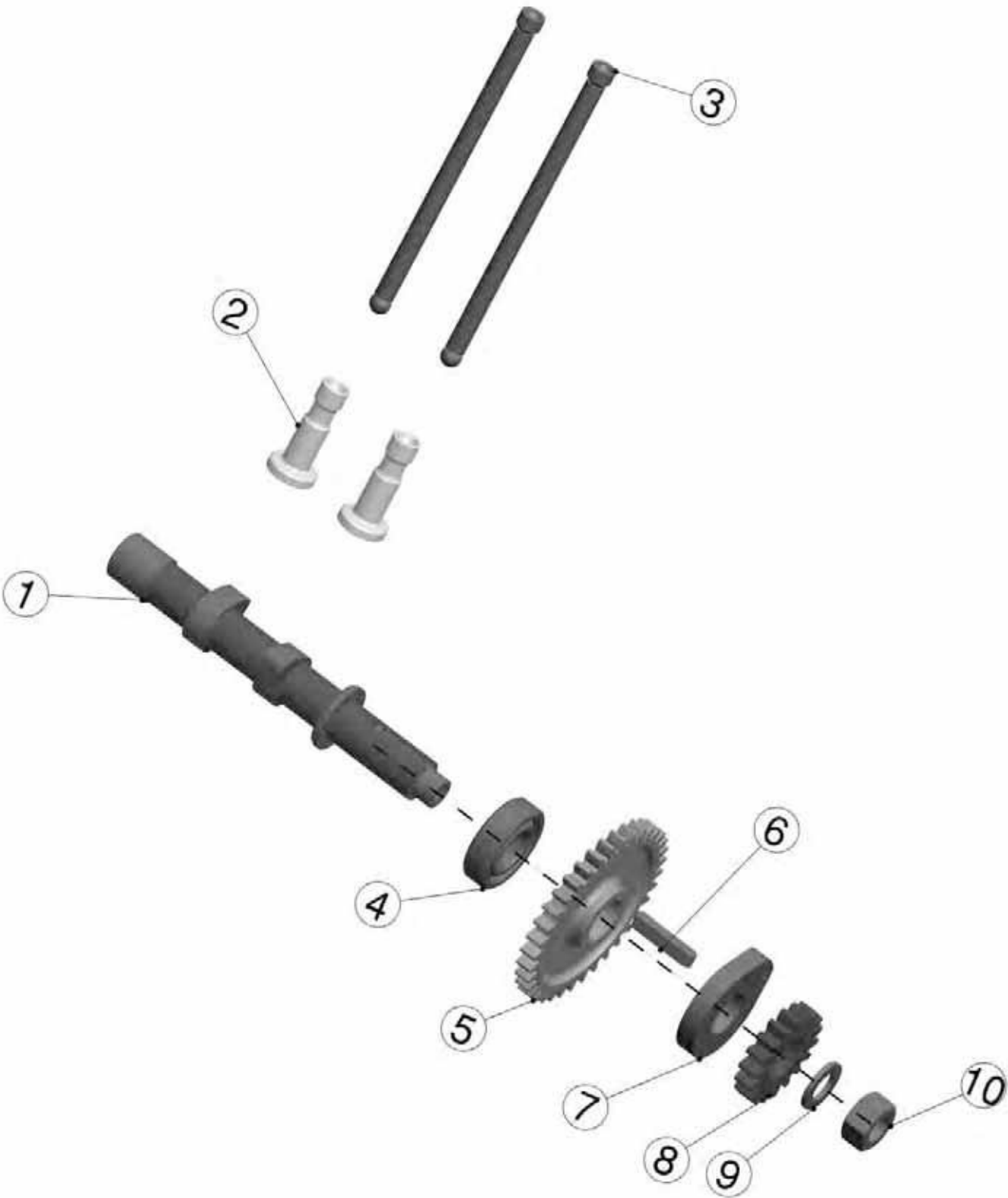
## PISTON & CONNECTING ROD ASSEMBLY

Sr. No.	Item	Description	Qty
<b>A</b>	P12.0306.020.0.PR	CONNECTING ROD ASSEMBLY FOR POWER TILLER	1
	P12.0306.010.0.PR	CONNECTING ROD WITH CAP ASSEMBLY FOR POWER TILLER	1
1	P12.0306.001.0.PR	CONNECTING ROD FOR POWER TILLER	1
2	P12.0306.006.0.PR	CONNECTING ROD BEARING FOR POWER TILLER	2
3	P12.0305.006.0.PR	CIRCLIPS FOR PISTON FOR POWER TILLER	2
4	P12.0305.005.0.PR	PISTON PIN FOR POWER TILLER	1
5	P12.0306.002.0.PR	CONNECTING ROD CAP FOR POWER TILLER	1
9	P12.0306.004.0.PR	CONNECTING ROD BOLT FOR POWER TILLER	2
10	P12.0306.005.0.PR	SMALL END BUSH FOR POWER TILLER	1
13	P12.0306.011.0.PR	LOCK WASHER FOR POWER TILLER	2
<b>B</b>	P12.0305.010.0.PR	PISTON ASSEMBLY FOR POWER TILLER	
6	P12.0305.007.0.PR	INTERNAL SUPPORT SPRING WITH OIL RING FOR POWER TILLER	1
7	P12.0305.008.0.PR	THIRD RING FOR POWER TILLER	1
8	P12.0305.001.0.PR	PISTON FOR POWER TILLER	1
11	P12.0305.002.0.PR	SECOND RING FOR POWER TILLER	1
12	P12.0305.003.0.PR	FIRST RING FOR POWER TILLER	1
14	P12.0305.020.0.PR	SET OF PISTON RINGS FOR POWER TILLER	



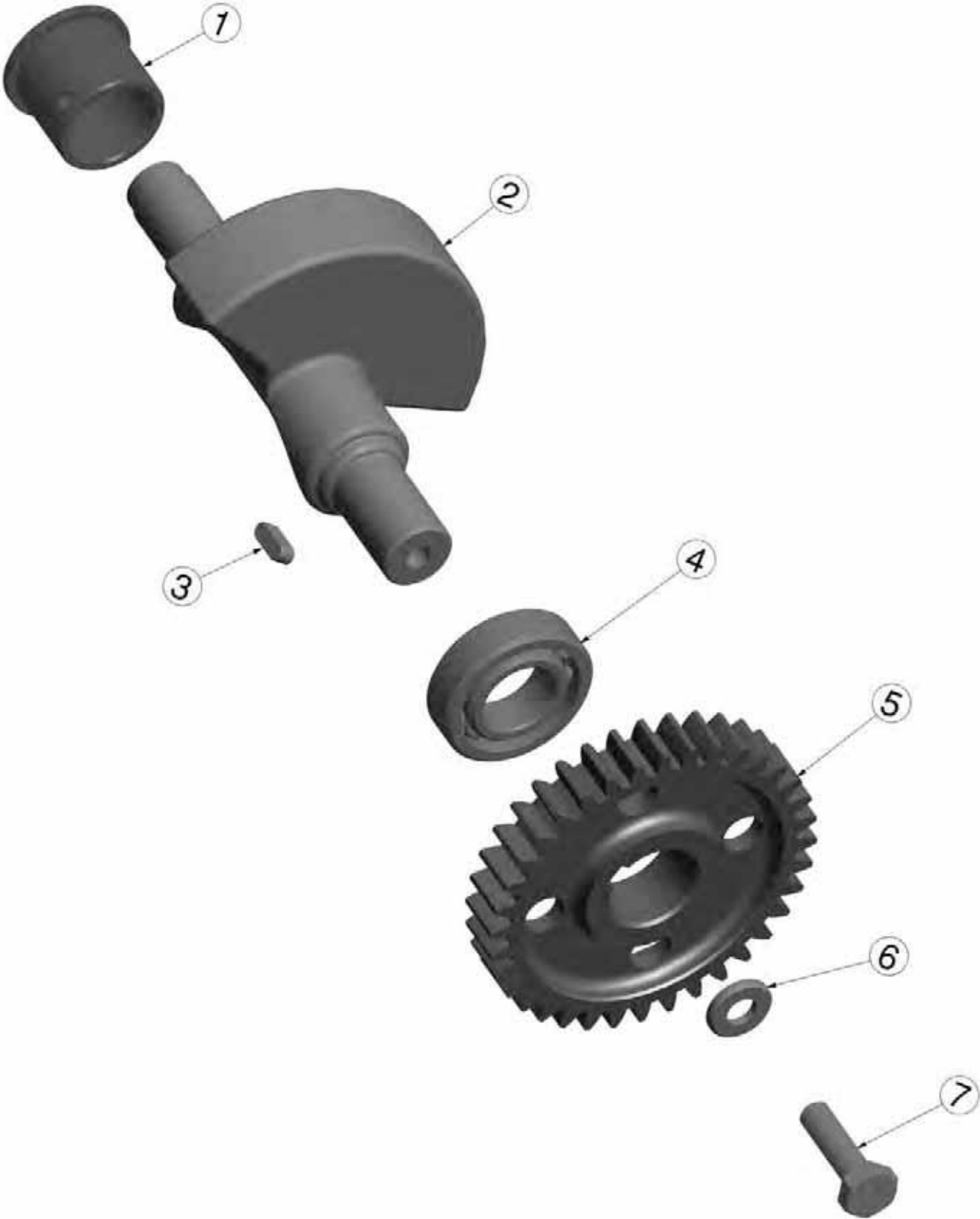
## CRANKSHAFT AND FLYWHEEL ASSEMBLY

Sr. No.	Item	Description	Qty
1	P12.0307.001.0.PR	CRANKSHAFT FOR POWER TILLER	1
2	P12.0301.012.0.PR	ROLLER BEARING NJ211E FOR POWER TILLER	1
3	P12.0307.003.0.PR	FLAT KEY C8x28 FOR POWER TILLER	1
4	P12.0307.002.0.PR	CRANKSHAFT TIMING GEAR FOR POWER TILLER	1
5	P12.0307.007.0.PR	BALANCING SHAFT GEAR FOR POWER TILLER	1
6	P12.0307.006.0.PR	BALANCE (COUNTER) WEIGHT FOR POWER TILLER	2
7	P12.0307.018.0.PR	LOCK WASHER OF BALANCE WEIGHT BOLT FOR POWER TILLER	2
8	P12.0307.011.0.PR	BALANCE (COUNTER) WEIGHT BOLT FOR POWER TILLER	2
9	50.402.12.040	FLAT KEY OF FLYWHEEL FOR POWER TILLER	1
10	P12.0308.002.0.PR	BALL BEARING 6311/C3 FOR POWER TILLER	1
11	P12.0308.001.0.PR	MAIN BEARING HOUSING FOR POWER TILLER	1
12	P12.0308.003.0.PR	OIL SEAL FOR POWER TILLER	1
13	P12.0307.012.0.PR	FLYWHEEL FOR POWER TILLER	1
14	P12.0307.013.0.PR	LOCK WASHER FOR POWER TILLER	1
15	P12.0307.014.0.PR	FLYWHEEL NUT FOR POWER TILLER	1
16	P12.0101.927.0.PR	V BELT PULLEY FOR POWER TILLER	1
17	P50.002.12.030	BOLT FOR POWER TILLER	3
18	P50.0506.12.000	PLAIN MACHINED WASHER FOR POWER TILLER	3



### CAMSHAFT ASSEMBLY

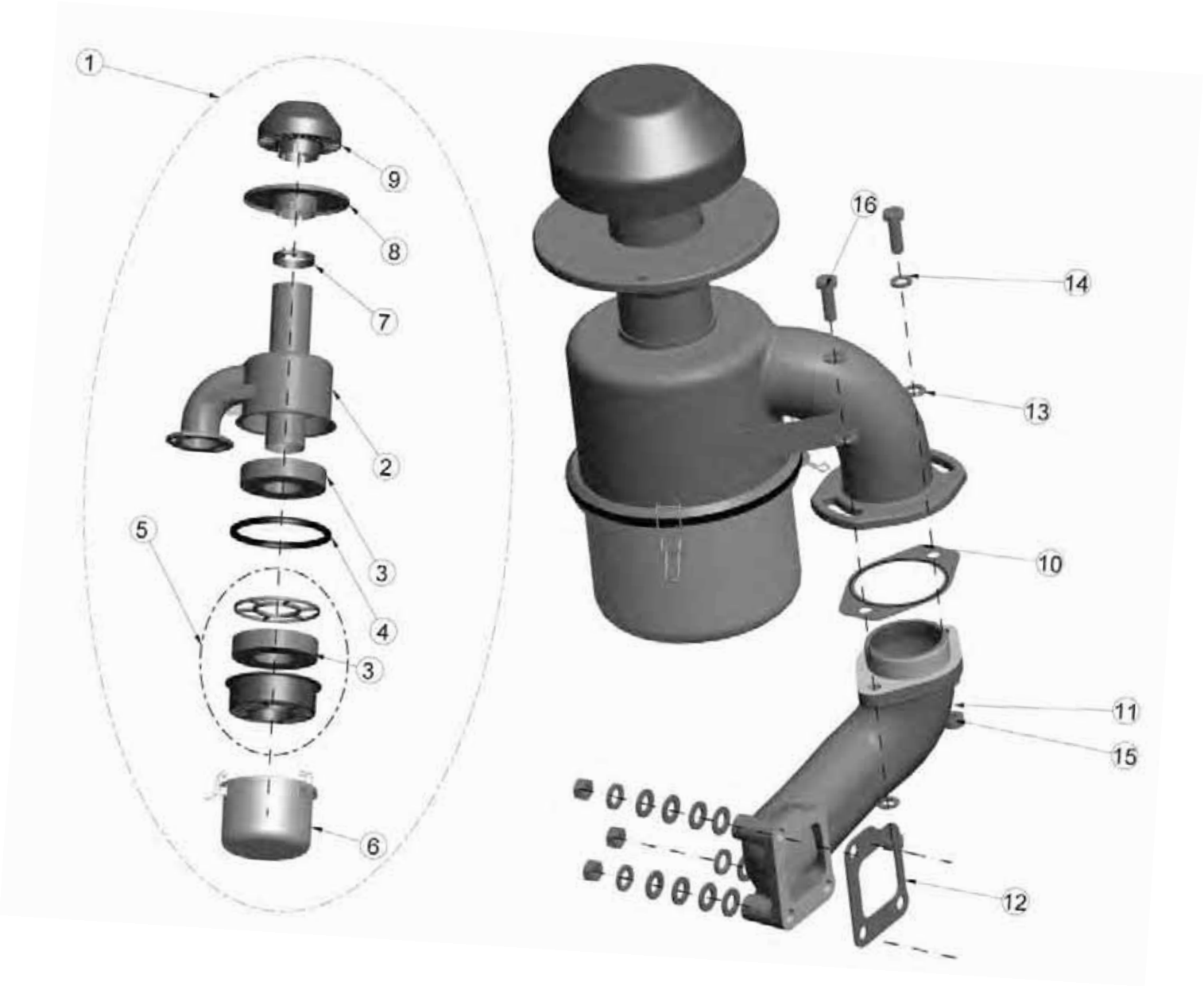
Sr. No.	Item	Description	Qty
1	P12.0303.001.0.PR	CAMSHAFT FOR POWER TILLER	1
2	P12.0303.004.0.PR	VALVE TAPPET FOR POWER TILLER	2
3	P12.0303.005.0.PR	PUSH ROD FOR POWER TILLER	2
4	P12.0303.008.0.PR	BALL BEARING 6006 FOR POWER TILLER	1
5	P12.0303.002.0.PR	CAMSHAFT GEAR FOR POWER TILLER	1
6	P12.0303.007.0.PR	KEY 8x50 FOR POWER TILLER	1
7	P12.0303.006.0.PR	FIP CAM LOBE FOR POWER TILLER	1
8	P12.0303.009.0.PR	STARTING GEAR FOR POWER TILLER	1
9	P50.506.18.000	WASHER 18 FOR POWER TILLER	1
10	P50.009.18.000	NUT M18x1.5 FOR POWER TILLER	1





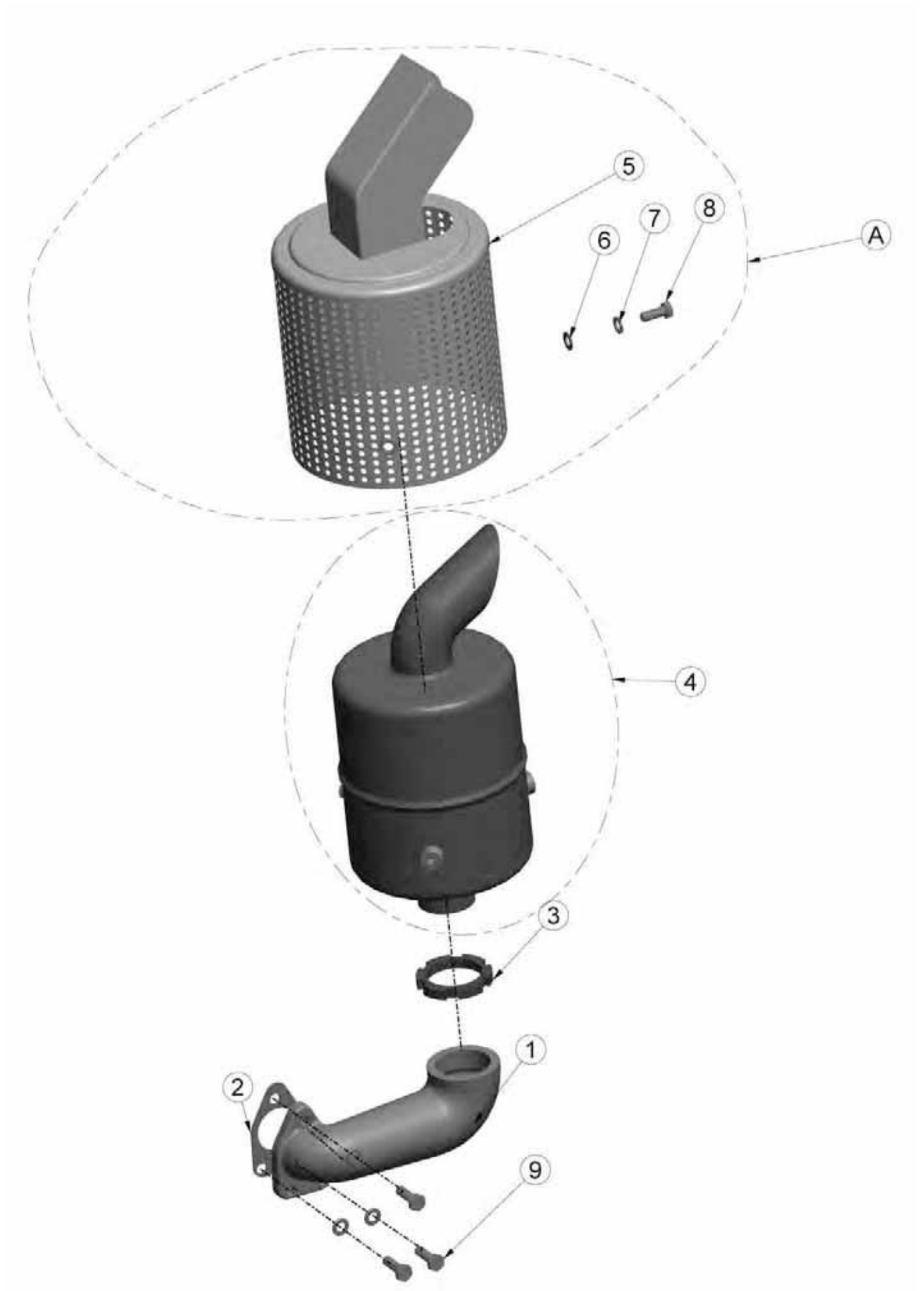
### BALANCER ASSEMBLY

Sr. No.	Item	Description	Qty
1	P12.0307.022.0.PR	BALANCER SHAFT BUSH FOR POWER TILLER	1
2	P12.0307.004.0.PR	BALANCER SHAFT FOR POWER TILLER	1
3	P50.402.06.012	KEY B6X12 FOR POWER TILLER	1
4	P12.0307.021.0.PR	BALL BEARING 6205 FOR POWER TILLER	1
5	P12.0307.007.0.PR	GEAR ON BALANCER SHAFT FOR POWER TILLER	1
6	P50.548.10.000	WASHER FOR POWER TILLER	1
7	P50.504.10.000.	BOLT FOR POWER TILLER	1



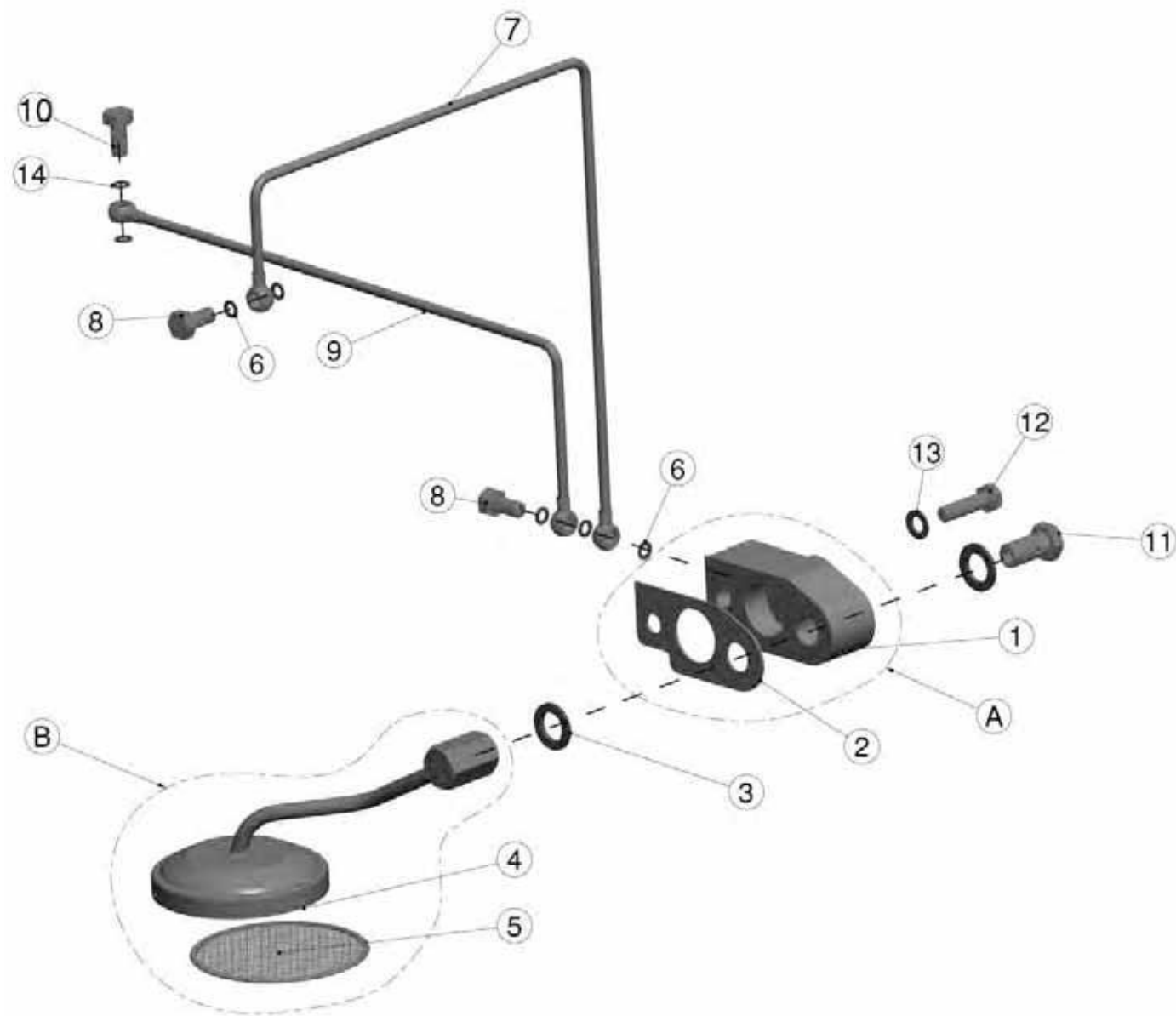
## INTAKE SYSTEM ASSEMBLY

Sr. No.	Item	Description	Qty
1	P15.0350.010.0.PR	AIR FILTER ASSEMBLY FOR POWER TILLER	1
2	P15.0313.030.0.PR	AIR FILTER BODY UPPER FOR POWER TILLER	1
3	P15.0313.006.0.PR	AIR FILTER ELEMENT FOR POWER TILLER	2
4	P15.0513.006.0.PR	RUBBER SEAL FOR POWER TILLER	1
5	P15.0213.010.0.PR	ASSEMBLY OF AIR FILTER ELEMENT FOR POWER TILLER	1
	P15.0313.004.0.PR	UPPER COVER OF AIR FILTER ELEMENT FOR POWER TILLER	1
	P15.0313.007.0.PR	AIR FILTER ELEMENT BODY FOR POWER TILLER	1
6	P15.0313.037.0.PR	AIR FILTER BODY LOWER FOR POWER TILLER	1
7	48.305.06.0.00	CLIP FOR AIR CLEANER FOR POWER TILLER	1
8	P15.2301.094.0.PR	MUD COVER FOR POWER TILLER	1
9	P15.0313.002.0.PR	AIR FILTER COVER FOR POWER TILLER	1
10	P15.0313.021.0.PR	GASKET FOR AIR CLEANER FOR POWER TILLER	1
11	P12.0313.001.0.PR	INLET MANIFOLD FOR POWER TILLER	1
12	P12.0304.037.0.PR	INTAKE PIPE PACKING FOR POWER TILLER	1
13	57.506.08.000	PLAIN MACHINED WASHER M8 FOR POWER TILLER	13
14	50.505.08.000	SPRING WASHER FOR POWER TILLER	5
15	57.006.08.000	NUT FOR POWER TILLER	5
16	50.003.08.030	SET SCREW OF COARSE PITCH FOR POWER TILLER	2
9A	P15.0513.013.0.PR	PRE CLEANER ASSEMBLY (Optional)	1



## EXHAUST SYSTEM ASSEMBLY

Sr. No.	Item	Description	Qty
1	P12.0318.001.0.PR	EXHAUST MANIFOLD FOR POWER TILLER	1
2	P12.0304.032.0.PR	EXHAUST PIPE PACKING FOR POWER TILLER	1
3	P15.0110.002.0.PR	LOCK NUT FOR POWER TILLER	1
A	P15.0210.010.0.PR	HEAT SHIELD ASSEMBLY FOR POWER TILLER	1
	P15.0210.005.0.PR	ASSEMBLY OF SILENCER COVER FOR POWER TILLER	1
4	P15.0210.050.0.PR	SILENCER WITH BUSH (FOR SPARES) FOR POWER TILLER	1
	P15.0318.003.0.PR	SILENCER FOR POWER TILLER	1
	P15.0210.006.0.PR	BUSH FOR POWER TILLER	3
5	P15.0210.007.0.PR	SILENCER COVER FOR POWER TILLER	1
6	57.506.08.000	PLAIN MACHINED WASHER FOR POWER TILLER	6
7	57.505.08.000	SPRING WASHER FOR POWER TILLER	3
8	57.003.08.016	SET SCREW COARSE PITCH FOR POWER TILLER	3
9	50.003.08.025	BOLT M8 FOR POWER TILLER	3

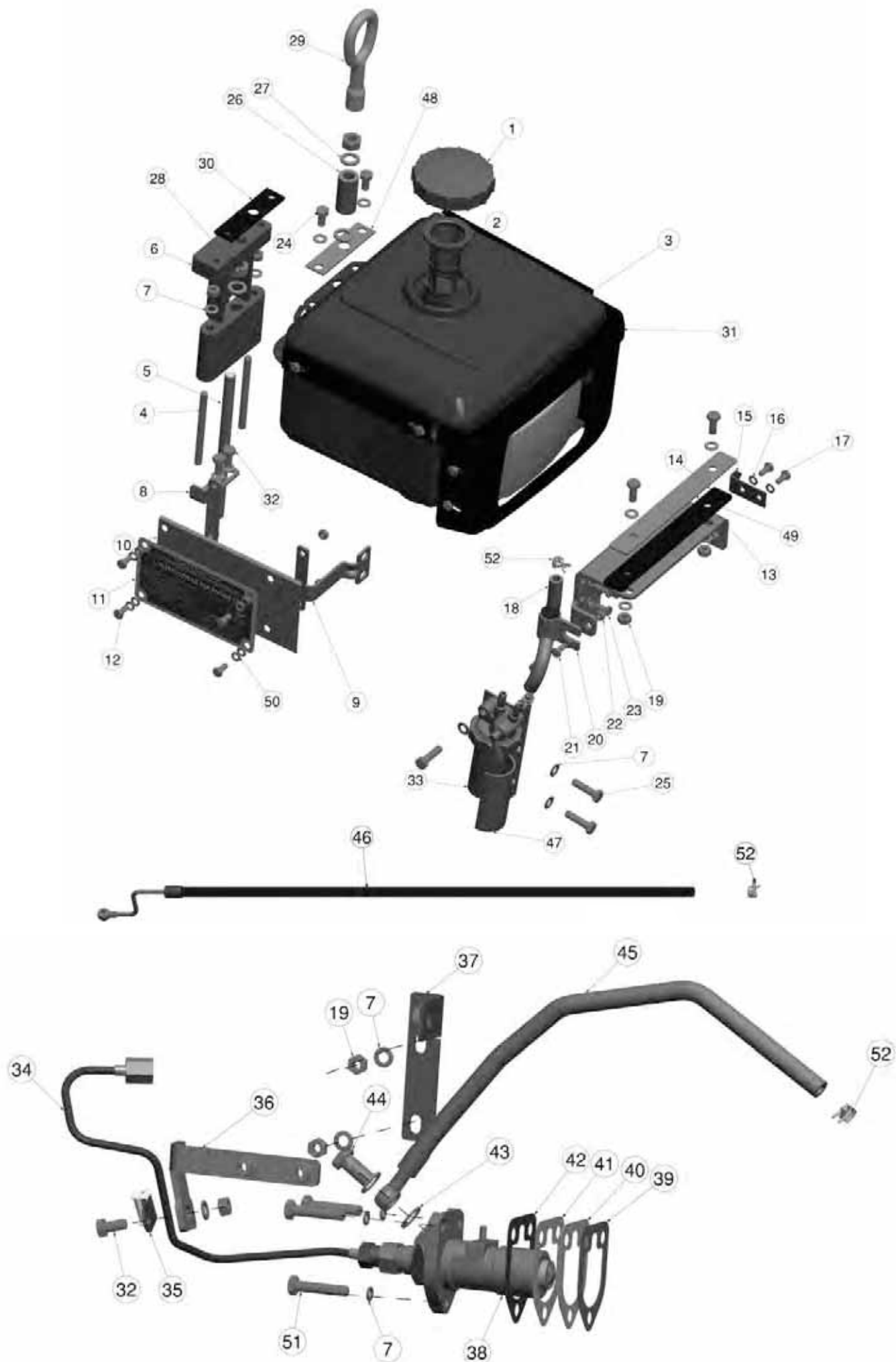


## LUBRICATION SYSTEM ASSEMBLY

Sr. No.	Item	Description	Qty
<b>A</b>	P12.0311.020.0.PR	LUBE OIL PUMP ASSEMBLY FOR POWER TILLER	<b>1</b>
1	P12.0311.003.0.PR	LUBE OIL PUMP FOR POWER TILLER	1
2	P12.0311.011.0.PR	PACKING FOR LUBRICATING OIL PUMP FOR POWER TILLER	1
3	P50.508.14.000	COPPER WASHER FOR POWER TILLER	2
<b>B</b>	P12.0311.030.0.PR	OIL STRAINER ASSEMBLY	
4	P12.0311.012.0.PR	OIL STRAINER BODY WITH SUCTION PIPE FOR POWER TILLER	1
5	P12.0311.014.0.PR	OIL STRAINER SCREEN FOR POWER TILLER	1
6	P50.508.12.000	COPPER WASHER FOR POWER TILLER	5
7	P12.0311.010.0.PR	MAIN OIL PIPE FOR POWER TILLER	1
8	P50.504.014.038	BANJO BOLT FOR POWER TILLER	2
9	P12.0311.015.0.PR	LUBE OIL PIPE FOR CYLINDER HEAD ASSEMBLY	1
10	P50.504.008.025	BANJO BOLT FOR CYLINDER HEAD LUBE OIL SUPPLY PIPE FOR POWER TILLER	1
11	P50.504.014.050	BANJO BOLT FOR LUBE OIL PUMP TO STRAINER FOR POWER TILLER	1
12	P50.002.008.030	BOLT FOR POWER TILLER	1
13	P50.506.008.000	PLAIN MACHINED WASHER FOR POWER TILLER	1
14	P50.508.008.000	COPPER WASHER M8 FOR POWER TILLER	2

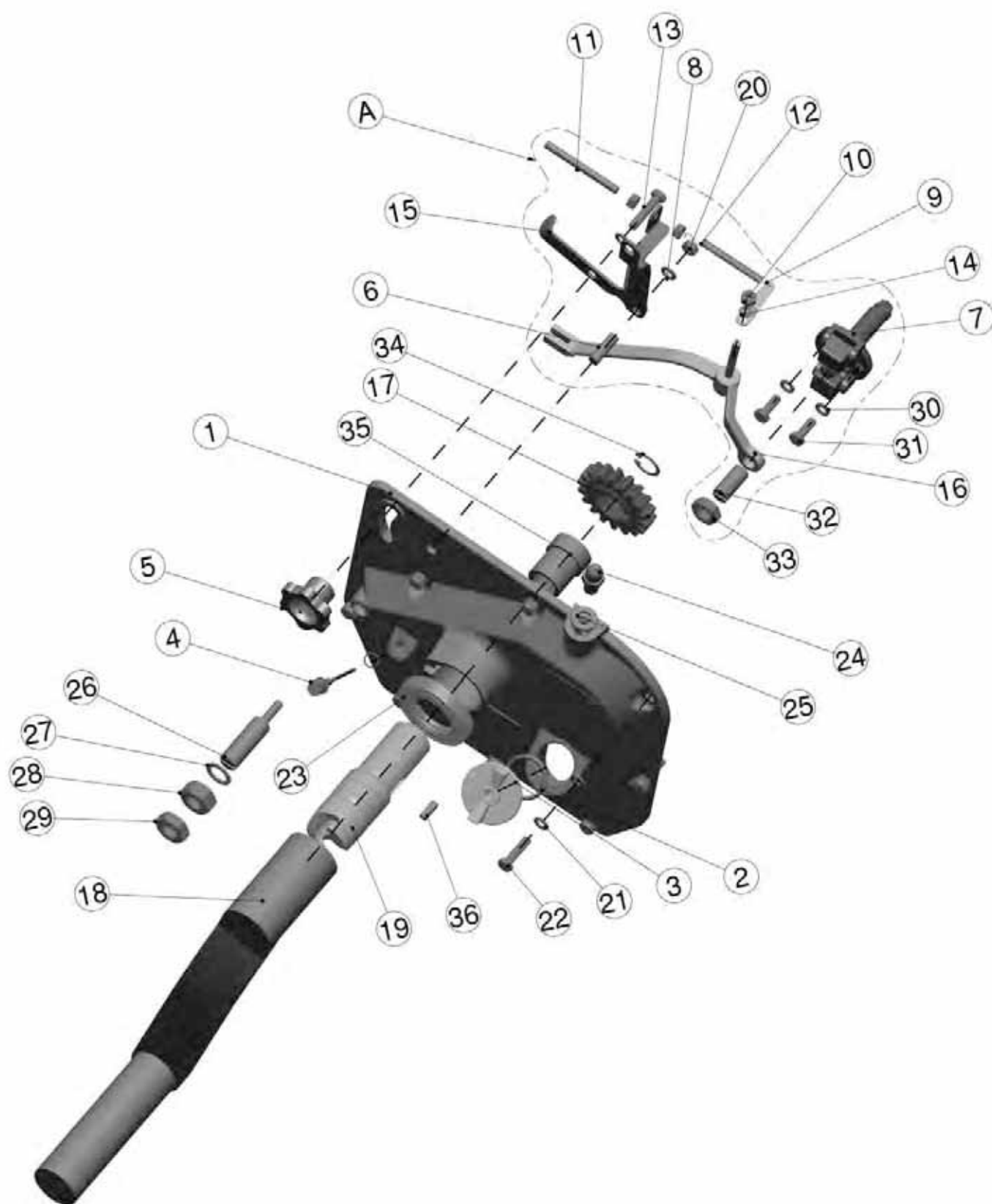


FUEL DELIVERY ASSEMBLY



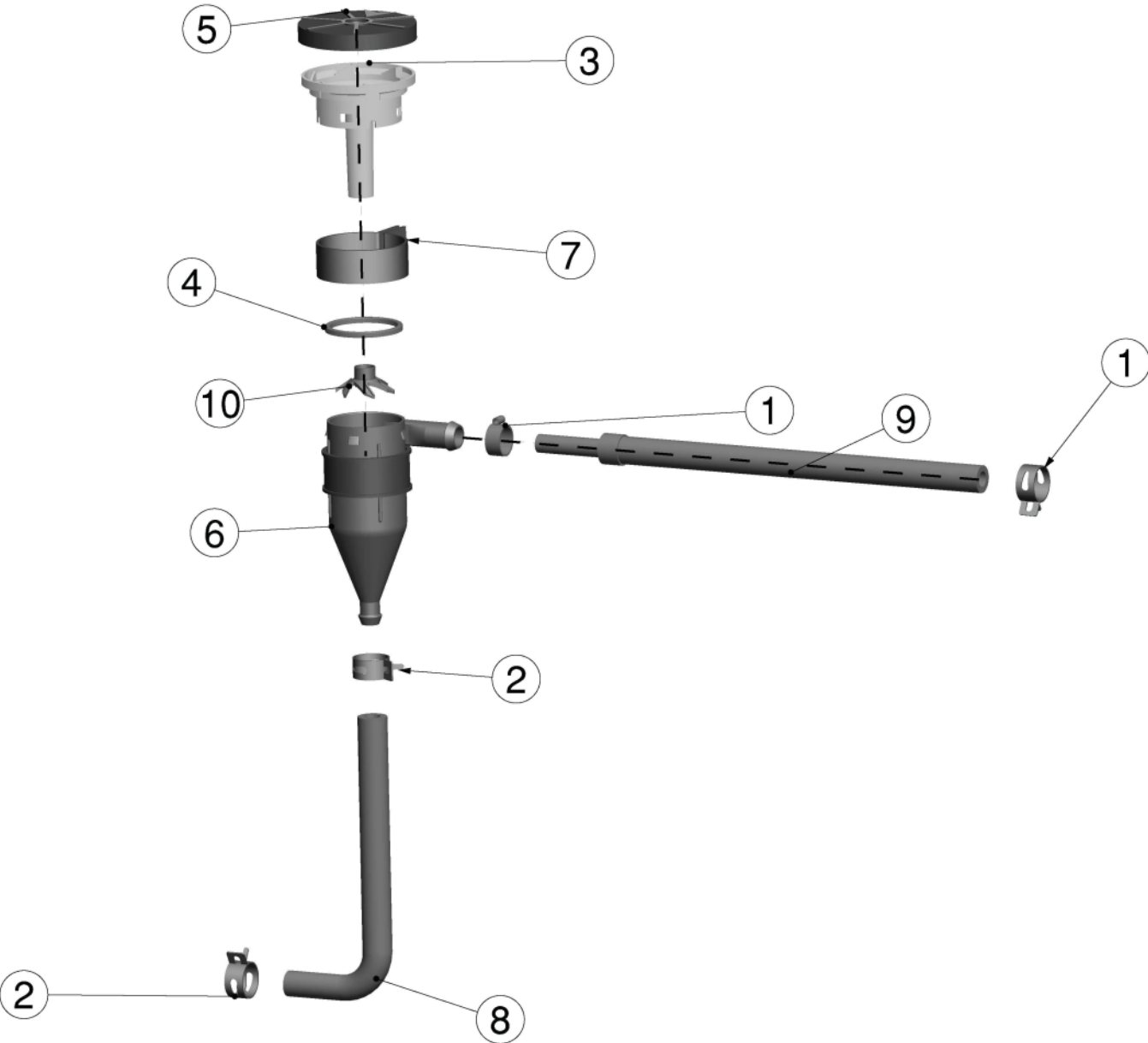
## FUEL DELIVERY ASSEMBLY

Sr. No.	Item	Description	Qty
1	P12.0310.050.0.PR	FUEL TANK CAP FOR POWER TILLER	1
2	P12.0310.052.0.PR	FUEL TANK STRAINER FOR POWER TILLER	1
3	P12.0310.011.0.PR	FUEL TANK FOR POWER TILLER	1
4	50.010.08.080	STUD M8X1.25X65	2
5	P15.0310.025.0.PR	STUD FOR POWER TILLER	1
6	P12.0310.042.0.PR	REAR BRACKET FOR POWER TILLER	1
7	50.506.08.000	PLAIN MACHINED WASHER M8	19
8	P12.0310.034.0.PR	SUPPORT FOR INSTRUCTION PLATE FUEL TANK SIDE	1
9	P12.0310.035.0.PR	SUPPORT FOR INSTRUCTION PLATE HEAD LIGHT SIDE	1
10	P12.0310.039.0.PR	GRILL FOR POWER TILLER	1
11	P12.320.01.0.PR	INSTRUCTION PLATE FOR POWER TILLER	1
12	50.003.06.012	BOLT M6X1X12	4
13	P12.0310.015.0.PR	FUEL TANK BRACKET FOR POWER TILLER	1
14	P12.0310.036.0.PR	AVM FRONT FOR POWER TILLER	1
15	P12.0310.031.0.PR	TIMING POINTER FOR POWER TILLER	1
16	50.506.06.000	PLAIN MACHINED WASHER M6	9
17	50.003.06.014	BOLT M6X1X14	2
18	P12.0310.017.0.PR	FUEL FEED HOSE FOR POWER TILLER	1
19	50.006.08.000	NUT M8	4
20	P12.0310.100.0.PR	CLAMP ASSEMBLY FOR FUEL PIPE FOR POWER TILLER	1
21	50.003.06.016.	BOLT M6X1X16	1
22	50.006.06.000	NUT M6	3
23	50.003.08.020	BOLT M8X1X20	2
24	50.003.08.014	BOLT M8X1.25X14	2
25	50.002.08.030	BOLTM8 FOR POWER TILLER	3
26	06.769.03.0.00	ENGINE LIFTING STUD FOR POWER TILLER	1
27	50.506.12.000	PLAIN MACHINED WASHER M12	3
28	50.006.12.000	NUT M12	2
29	P12.0310.026.0.PR	LIFTING HOOK (M12X1.75) FOR POWER TILLER	1
30	P12.0310.037.0.PR	AVMFOR FUEL TANK OF BASE PLATE SIDE FOR POWER TILLER	1
31	P12.0310.110.0.PR	HEAD LIGHT ASSEMBLYFOR POWER TILLER	1
*	P12.0310.111.0.PR	BULB-HEAD LAMP FOR POWER TILLER	1
32	50.003.08.016	BOLT M8X1.25X16	2
33	P12.0310.010.0.PR	FUEL FILTER ASSEMBLY FOR POWER TILLER	1
34	P12.0310.060.0.PR	HIGH PRESSURE PIPEFOR POWER TILLER	1
35	P12.0310.090.0.PR	CLAMP ASSEMBLY FOR HPPFOR POWER TILLER	1
36	P12.0310.043.0.PR	SUPPORT FOR HPPFOR POWER TILLER	1
37	P12.1401.454.0.PR	BRACKET FOR POWER TILLER	1
38	P12.0109.026.0.PR	FUEL INJECTION PUMPFOR POWER TILLER	1
	P12.0312.100.0.PR	SET OF FUEL PUMP SHIMS FOR TIMING CHANGE FOR POWER TILLER	1
39	P12.0312.031.0.PR	SHIM FOR FIP (0.1MM)FOR POWER TILLER	1
40	P12.0312.032.0.PR	SHIM FOR FIP (0.15MM)FOR POWER TILLER	1
41	P12.0312.033.0.PR	SHIM FOR FIP (0.2MM)FOR POWER TILLER	1
42	P12.0312.034.0.PR	SHIM FOR FIP (0.3MM)FOR POWER TILLER	1
43	50.508.12.000	COPPER WASHER	2
44	50.504.03.000	BANJO BOLT	1
45	P12.0310.019.0.PR	FUEL PIPE (FROM FILTER TO FIP)FOR POWER TILLER	1
46	P12.0310.023.0.PR	LEAK OFF PIPE FOR POWER TILLER	1
47	P12.0310.001.0.PR	FUEL FILTER COVER FOR POWER TILLER	1
48	P12.0310.053.0.PR	FUEL TANK REAR PLATE FOR POWERTILLER	1
49	P12.0310.047.0.PR	FUEL TANK FRONT PLATE FOR POWER TILLER	1
50	P50.505.06.000	SPRING WASHER FOR POWER TILLER	4
51	50.002.08.025	BOLT M8	3
52	2H.112.07.0.00	HOSE CLAMP FOR POWER TILLER	4
*	2H.112.07.0.00	HOSE CLAMP 12 TO 18 MM JUPITER	3
* - NOT SHOWN IN FIGURE			



## GOVERNOR AND CONTROLLER ASSEMBLY

Sr. No.	Item	Description	Qty
1	P12.0312.001.0.PR	TIMING GEAR CASE COVER FOR POWER TILLER	1
2	P12.0312.027.0.PR	O RING FOR CAP FOR POWER TILLER	1
3	P12.0312.026.0.PR	OIL FILLING CAP FOR POWER TILLER	1
4	P12.0312.045.0.PR	DIPSTICK FOR POWER TILLER	1
5	P12.0312.024.0.PR	SPEED ADJUSTING KNOB FOR POWER TILLER	1
A	P12.0312.070.0.PR	GOVERNOR LINK ASSEMBLY FOR POWER TILLER	1
6	P50.401.08.035	DOWEL FOR SPEED CONTROL LEVER	1
7	P12.0312.046.0.PR	FLYWEIGHT ASSEMBLY FOR POWER TILLER	1
8	50.506.08.000	PLAIN MACHINED WASHER FOR POWER TILLER	2
9	P12.0312.005.0.PR	GOVERNOR ARM FOR POWER TILLER	1
10	P50.006.06.00	NUT M6 FOR GOVERNOR ARM	3
11	P12.0512.021.0.PR	ADJUSTING SCREW FOR SPEED CONTROL LEVER	1
12	P12.0312.047.0.PR	GOVERNOR SPRING FOR POWER TILLER	1
13	P50.003.08.095	HEX BOLT FOR SPEED CONTROL LEVER	1
14	50.506.06.000	PLAIN MACHINED WASHER M6 FOR ADJUSTING SCREW	11
15	P12.0312.048.0.PR	SPEED CONTROL LEVER FOR POWER TILLER	1
16	P12.0312.019.0.PR	GOVERNOR FORK FOR POWER TILLER	1
17	P12.0312.014.0.PR	STARTING GEAR FOR POWER TILLER	1
18	P12.0302.010.0.PR	HANDLE ASSEMBLY FOR POWER TILLER	1
19	P12.0312.013.0.PR	STARTING GEAR SHAFT FOR POWER TILLER	1
20	P50.006.08.000	NUT M8 FOR POWER TILLER	1
21	P50.505.06.000	SPRING M6 WASHER FOR POWER TILLER	8
22	P50.002.06.025	BOLT M6X1X25 FOR POWER TILLER	8
23	P12.0312.021.0.PR	OIL SEAL FOR POWER TILLER	1
24	P12.0319.030.0.PR	OIL INDICATOR ASSEMBLY FOR POWER TILLER	1
25	P50.006.10.000	COPPER WASHER M10 FOR POWER TILLER	1
26	P12.0312.035.0.PR	FUEL LIMITER FOR POWER TILLER	1
27	P50.508.12.000	COPPER WASHER M12 FOR POWER TILLER	1
28	50.006.14.000	NUT M14 FOR POWER TILLER	1
29	P12.0312.038.0.PR	NUT M14 FOR POWER TILLER	1
30	P50.505.06.000	SPRING WASHER M6 FOR POWER TILLER	2
31	P50.003.06.018	BOLT M6X18 FOR POWER TILLER	2
32	P12.0312.037.0.PR	ADJUSTING SCREW FOR POWER TILLER	1
33	P12.0312.039.0.PR	NUT 12X1.25 FOR POWER TILLER	1
34	P50.501.020.000	CIRCLIP FOR POWER TILLER	1
35	P12.0312.015.0.PR	BUSH FOR STARTING GEAR SHAFT	1
36	P50.402.05.016	STARTING SHAFT KEY 5X16 FOR POWER TILLER	1



### CCV UNIT ASSEMBLY

Sr. No.	Item	Description	Qty
	P12.0301.080.0.PR	BREATHER ASSEMBLY COMPLETE FOR POWER TILLER	1
	N11.020.30.0.00	BREATHER ASSLY (CYCLONE TYPE) FOR POWER TILLER	1
1	2H.112.07.0.00	HOSE CLAMP FOR POWER TILLER	2
2	N11.013.18.0.00	HOSE CLIP FOR BREATHER DRAIN PIPE - VA320 FOR POWER TILLER	2
3	N11.020.21.0.00	INTERMEDIATE CAP (BREATHER) FOR POWER TILLER	1
4	N11.020.23.0.00	O'RING (BREATHER) FOR POWER TILLER	1
5	N11.020.24.0.00	TOP CAP (BREATHER) FOR POWER TILLER	1
6	N11.020.19.0.00	CYCLONE BODY (BREATHER) FOR POWER TILLER	1
7	N11.020.40.0.00	BREATHER CLIP WITH RUBBER FOR POWER TILLER	1
8	N11.020.41.0.00	BREATHER DRAIN PIPE (MOLDED FOR CYCLONE BREATHER	1
9	P12.0311.018.0.PR	CCV INLET PIPE FOR POWER TILLER	1
10	N11.020.26.0.00	OIL DEFLECTOR (BREATHER) FOR POWER TILLER	1

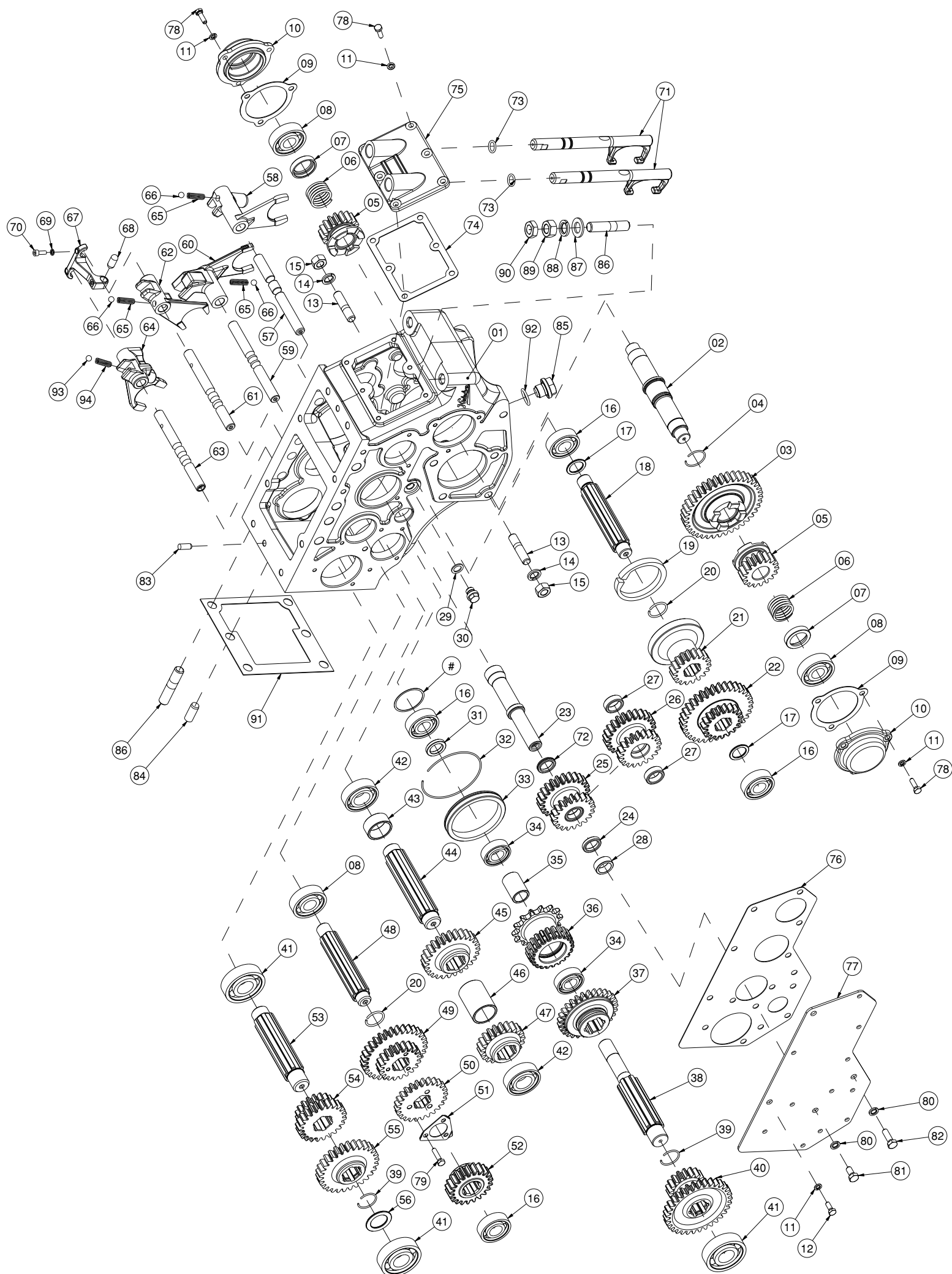
## INDEX

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2	BULL HOUSING ASSEMBLY - LEFT	P12.BHLH	
3	BULL HOUSING ASSEMBLY - RIGHT	P12.BHRH	
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5	CHAIN TRANSMISSION CASE	P12.1108	
6	BASE FRAME ASSEMBLY	P12.1208	
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17	ELECTRICAL SYSTEM	P12.220S	

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As continuous improvements are contemplated the illustrations and descriptions are not binding.

# GEAR BOX ASSEMBLY



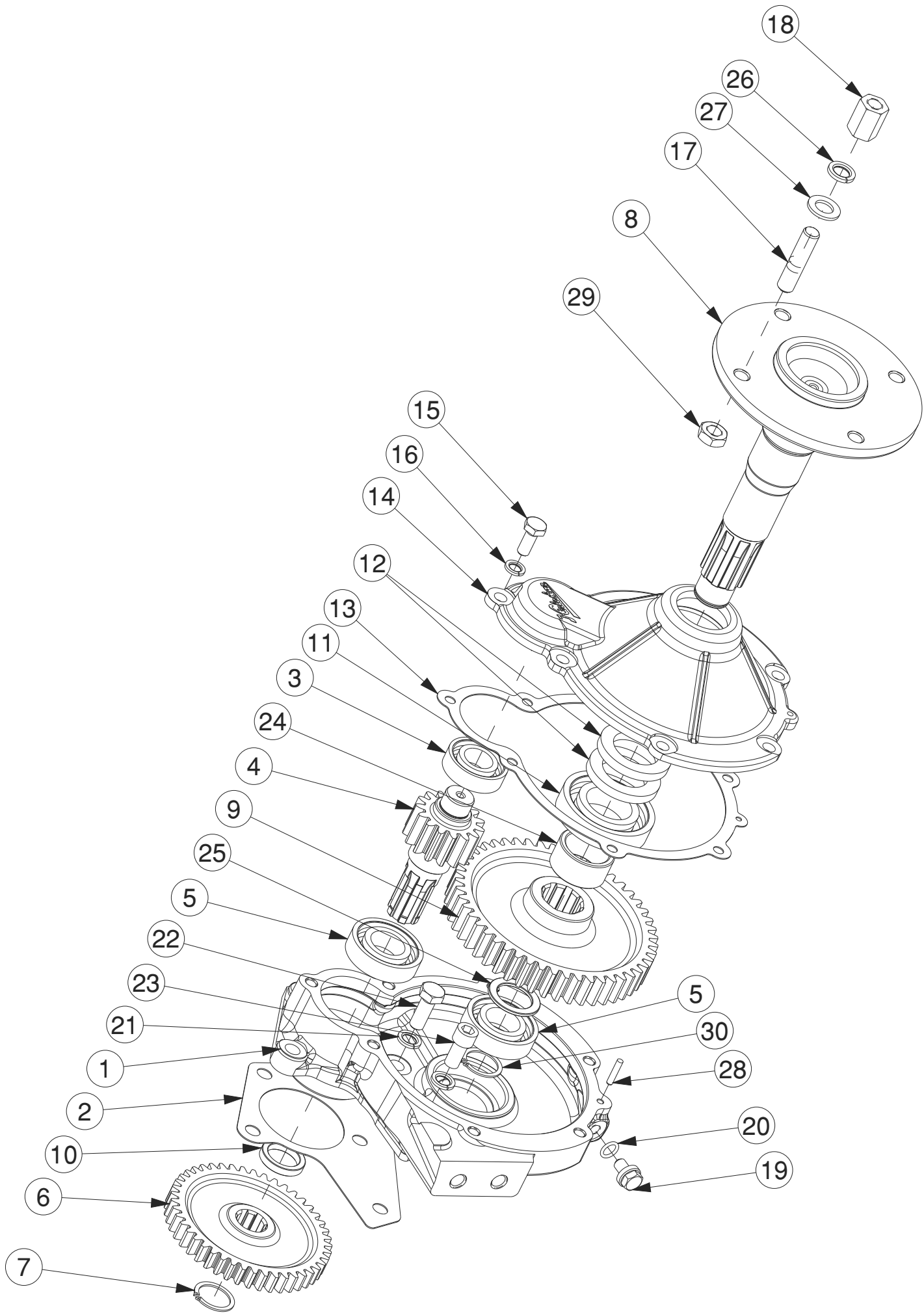


## GEARBOX ASSEMBLY

Sr. No.	ITEM	DESCRIPTION	QTY.
1	P12.0908.051.0.PR	MAIN GEAR BOX HOUSING	1
2	P12.0908.034.0.PR	SHAFT, GEAR INTERMEDIATE REDUCTION 2	1
3	P12.0908.007.0.PR	GEAR INTERMEDIATE REDUCTION	1
4	P12.0908.098.0.PR	SNAP RING	1
5	P12.0908.008.0.PR	GEAR STEERING	2
6	P15.0901.076.0.PR	STEERING SPRING	2
7	P15.0901.051.0.PR	PROTECTING RING	2
8	P15.0901.565.0.PR	BEARING 6304	3
9	P12.0908.083.0.PR	GASKET COVER INTERMEDIATE SHAFT	2
10	P12.0908.053.0.PR	END COVER INTERMEDIATE SHAFT	2
11	50.505.06.000.	SPRING WASHER - M6	24
12	50.003.06.016.	SET SCREW - M6X1X16	12
13	50.010.12.035.	STUD - M12X1.75X35	6
14	50.505.12.000.	SPRING WASHER - M12	6
15	50.006.12.000.	NUT - M12X1.75	6
16	P15.0901.561.0.PR	BEARING 6204	4
17	P12.0908.103.0.PR	WASHER, HI-LOW SHAFT	2
18	P12.0908.033.0.PR	SHAFT, HIGH LOW	1
19	P12.0908.059.0.PR	BRAKE RING	1
20	P12.0908.071.0.PR	SNAP RING FOR GEAR	2
21	P12.0908.006.0.PR	GEAR 1, INTERMEDIATE DRIVING	1
22	P12.0908.005.0.PR	GEAR, HI-LOW	1
23	P12.0908.035.0.PR	SHAFT REVERSE GEAR	1
24	P12.0908.122.0.PR	WASHER FOR REVERSE IDLER SHAFT	1
25	P12.0908.017.0.PR	GEAR REVERSE WITH BUSH	1
26	P12.0908.018.0.PR	GEAR REVERSE	1
27	P12.0908.106.0.PR	BUSH, GEAR REVERSE	2
28	P12.0908.104.0.PR	BUSH, REVERSE GEAR SHAFT	1
29	50.508.10.000.	COPPER WASHER 12*18	1
30	50.602.12.000.	CORE PLUG-HEXAGONAL HEAD - M12	1
31	P12.0908.115.0.PR	OUTER SPACER	1
32	P12.0908.088.0.PR	RETAINING RING	1
33	P12.0908.101.0.PR	SLEEVE	1
34	P12.0908.068.0.PR	BEARING 6004	2
35	P12.0908.102.0.PR	BUSH SPACER, MAIN SHAFT	1
36	P12.0908.001.0.PR	GEAR, DRIVING MAIN SHAFT	1
37	P12.0908.016.0.PR	GEAR, MAIN SHAFT 2ND	1
38	P12.0908.031.0.PR	SHAFT, MAIN	1
39	P15.0901.094.0.PR	SNAP RING	2
40	P12.0908.004.0.PR	GEAR, MAIN SHAFT	1
41	P15.0901.566.0.PR	BEARING 6305	3
42	P15.0901.562.0.PR	BEARING 6205	2
43	P12.0908.108.0.PR	SPACER FOR ROTOR IDLER SHAFT	1
44	P12.0908.036.0.PR	SHAFT INTERMEDIATE	1
45	P12.0908.022.0.PR	GEAR ,ROTOTILLER DRIVEN-1	1
46	P12.0908.107.0.PR	SPACER FOR ROTOR IDLER GEAR	1
47	P12.0908.021.0.PR	GEAR, ROTOTILLER DRIVING INTERMEDIATE	1
48	P12.0908.032.0.PR	COUNTER SHAFT	1

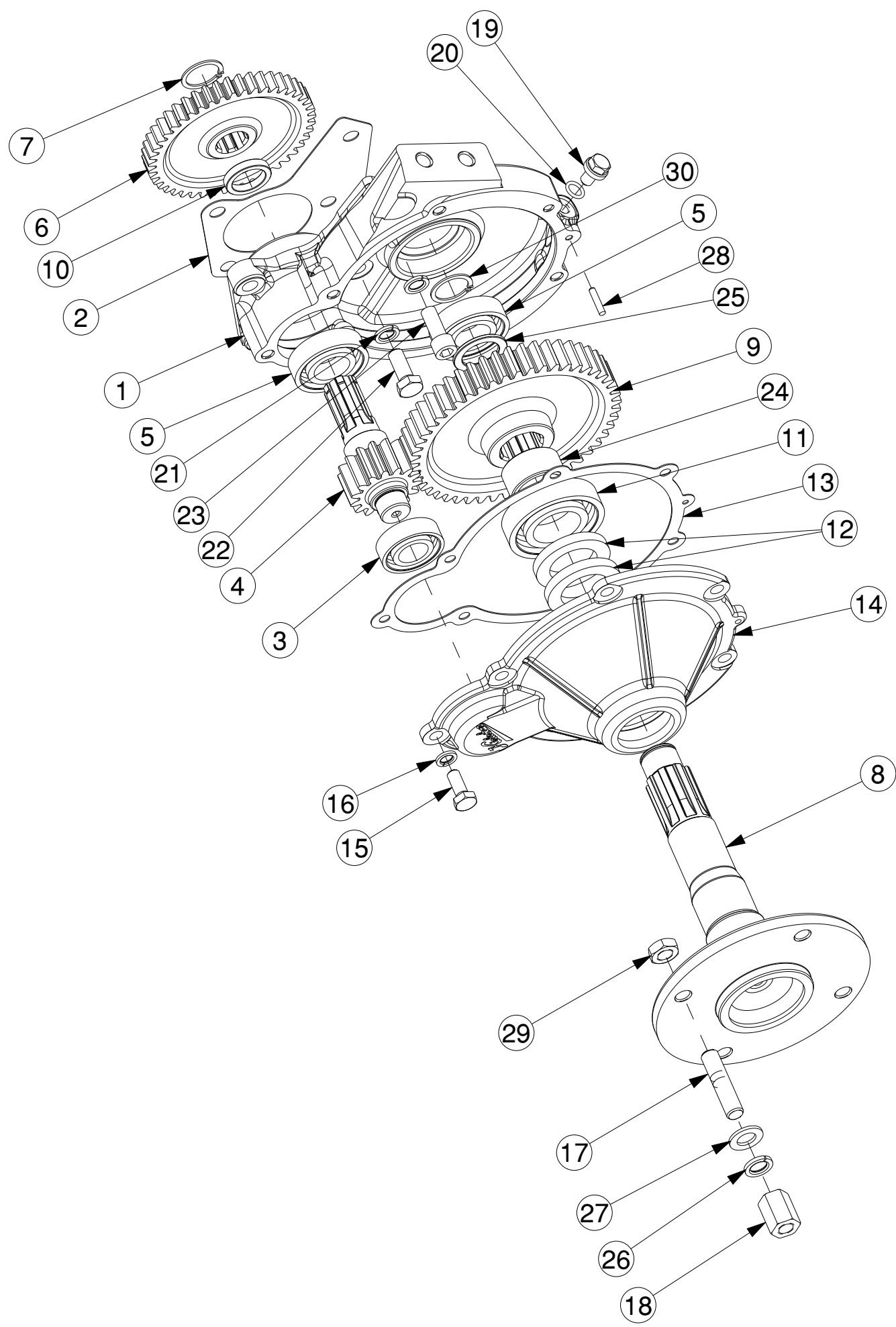
Sr. No.	ITEM	DESCRIPTION	QTY.
49	P12.0908.002.0.PR	GEAR, COUNTER SHAFT	1
50	P12.0908.015.0.PR	GEAR, SECOND DRIVE	1
51	P12.0908.394.0.PR	LOCKING PLATE	1
52	P12.0908.003.0.PR	GEAR, 1ST SPEED	1
53	P12.0908.037.0.PR	SHAFT, ROTOTILLER HI-LOW	1
54	P12.0908.024.0.PR	GEAR, ROTORY HI-LOW	1
55	P12.0908.023.0.PR	GEAR, ROTOTILLER DRIVEN-2	1
56	P12.0908.109.0.PR	SPACER FOR ROTOR HI-LOW SHAFT	1
57	P12.0908.043.0.PR	RAIL HIGH LOW RANGE	1
58	P12.0908.347.0.PR	SHIFTING FORK HIGH-LOW	1
59	P12.0908.042.0.PR	RAIL 2ND AND 3RD	1
60	P12.0908.346.0.PR	SHIFTING FORK 2ND AND 3RD	1
61	P12.0908.041.0.PR	RAIL 1ST AND REVERSE	1
62	P12.0908.345.0.PR	SHIFTING FORK 1ST AND REVERSE	1
63	P12.0908.444.0.PR	RAIL ROTARY FORK	1
64	P12.0908.348.0.PR	SHIFTING FORK ROTOR GEAR	1
65	P15.0901.075.0.PR	SPRING, SHIFTING FORK	3
66	50.529.09.000.	STEEL BALL DIA 8	3
67	P12.0908.338.0.PR	BRACKET FOR LOCKING PIN	1
68	P12.0908.039.0.PR	LOCKING PIN	1
69	50.505.05.000.	SPRING WASHER - M5	3
70	50.011.05.014.	ALLEN SCREW, M5X14	3
71	P12.0908.395.0.PR	SHIFTING FORK STEERING LEFT	2
72	P12.0908.123.0.PR	WASHER REVERSE IDLER SHAFT	1
73	P15.1101.085.0.PR	O RING 16X2.4	2
74	P12.0908.084.0.PR	GASKET, STEERING COVER	1
75	P12.0908.352.0.PR	COVER, STEERING	1
76	P12.0908.099.0.PR	GASKET RH SIDE, MAIN GEAR BOX	1
77	P12.0908.151.0.PR	COVER PLATE, RH FOR GEARBOX	1
78	50.003.06.020.	SET SCREW - M6X1X20	12
79	57.003.06.025.	SET SCREW - M6X1X25	3
80	50.505.08.000.	SPRING WASHER - M8	3
81	50.003.08.016.	SET SCREW - M8X1.25X16	2
82	50.003.08.025.	SET SCREW - M8X1.25X25	1
83	50.401.08.020.	DOWEL PIN 8X20	2
84	50.401.10.030.	DOWEL PIN 10X25	2
85	2H.035.02.0.00	PRECOATED DRAIN PLUG	1
86	50.010.14.040.	STUD - M14X2X40	6
87	50.507.14.000.	PLAIN PUNCHED WASHER - M14	2
88	50.505.14.000.	SPRING WASHER - M14	2
89	50.006.14.000.	NUT - M14X2	2
90	50.008.14.000.	LOCK NUT - M14X2	2
91	P12.0908.086.0.PR	GASKET, REAR FACE MAIN GEAR BOX	1
92	F6.024.47.0.00	O-RING FOR DRAIN PLUG	1
93	50.529.11.000.	STEEL BALL DIA 9	1
94	P12.0908.475.0.PR	SPRING, SHIFTING FORK	1
#	P12.0908.116.0.PR	FILLER PLATE 0.5 THK.	AR
#	P12.0908.117.0.PR	FILLER PLATE 1.0 THK.	AR
#	P12.0908.118.0.PR	FILLER PLATE 1.5 THK.	AR

BULL HOUSING ASSEMBLY LH



<b>BULL HOUSING ASSEMBLY - LEFT</b>			
<b>Sr. No.</b>	<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1	P12.0908.057.0.PR	HOUSING LH, BULL GEAR	1
2	P12.0908.085.0.PR	PAPER GASKET, BULL GEAR HSG.	1
3	P15.0901.562.0.PR	BEARING 6205	1
4	P12.0908.013.0.PR	GEAR WITH BULL SHAFT	1
5	P12.0908.069.0.PR	BEARING 6206	2
6	P12.0908.009.0.PR	Gear Main Reduction	1
7	50.501.28.000.	CIRCLIP EXTERNAL - 28 MM	1
8	P12.0908.014.0.PR	DRIVE AXLE	1
9	P12.0908.012.0.PR	GEAR BULL	1
10	P12.0908.112.0.PR	SPACER, BULL GEAR	1
11	P15.1901.561.0.PR	BEARING 6208	1
12	P15.1901.071.0.PR	Oil Seal 62 x 40 x 8	2
13	P12.0908.087.0.PR	PAPER GASKET, FOR BULL HOUSING	1
14	P12.0908.061.0.PR	Cover Bull Hsg LH	1
15	50.003.10.025.	SET SCREW - M10X1.5X25 - 8.8	7
16	50.505.10.000.	SPRING WASHER - M10 PLATED	7
17	57.010.14.035.	STUD M14X2X35-8.8	4
18	P15.1601.508.0.PR	NUT - M14X2	4
19	P12.2051.072.0.PR	DRAIN PLUG ASSEMBLY	1
20	P12.2051.086.0.PR	O - RING FOR DRAIN PLUG	1
21	50.505.12.000.	SPRING WASHER - M12	2
22	50.003.12.030.	SET SCREW - M12X1.75X30 - 8.8	1
23	50.011.12.025.	ALLEN SCREW, M12X1.75X25	1
24	P12.0908.114.0.PR	SPACER BIG FINAL REDUCTION	1
25	P12.0908.113.0.PR	SPACER SMALL FINAL REDUCTION	1
26	57.505.14.000.	SPRING WASHER - M14	4
27	57.507.14.000.	PLAIN WASHER - M14	4
28	50.401.06.025	Dowel Pin 06X25	1
29	50.008.14.000.	LOCK NUT - M14	4
30	50.501.30.000.	CIRCLIP EXTERNAL - 30 MM	1

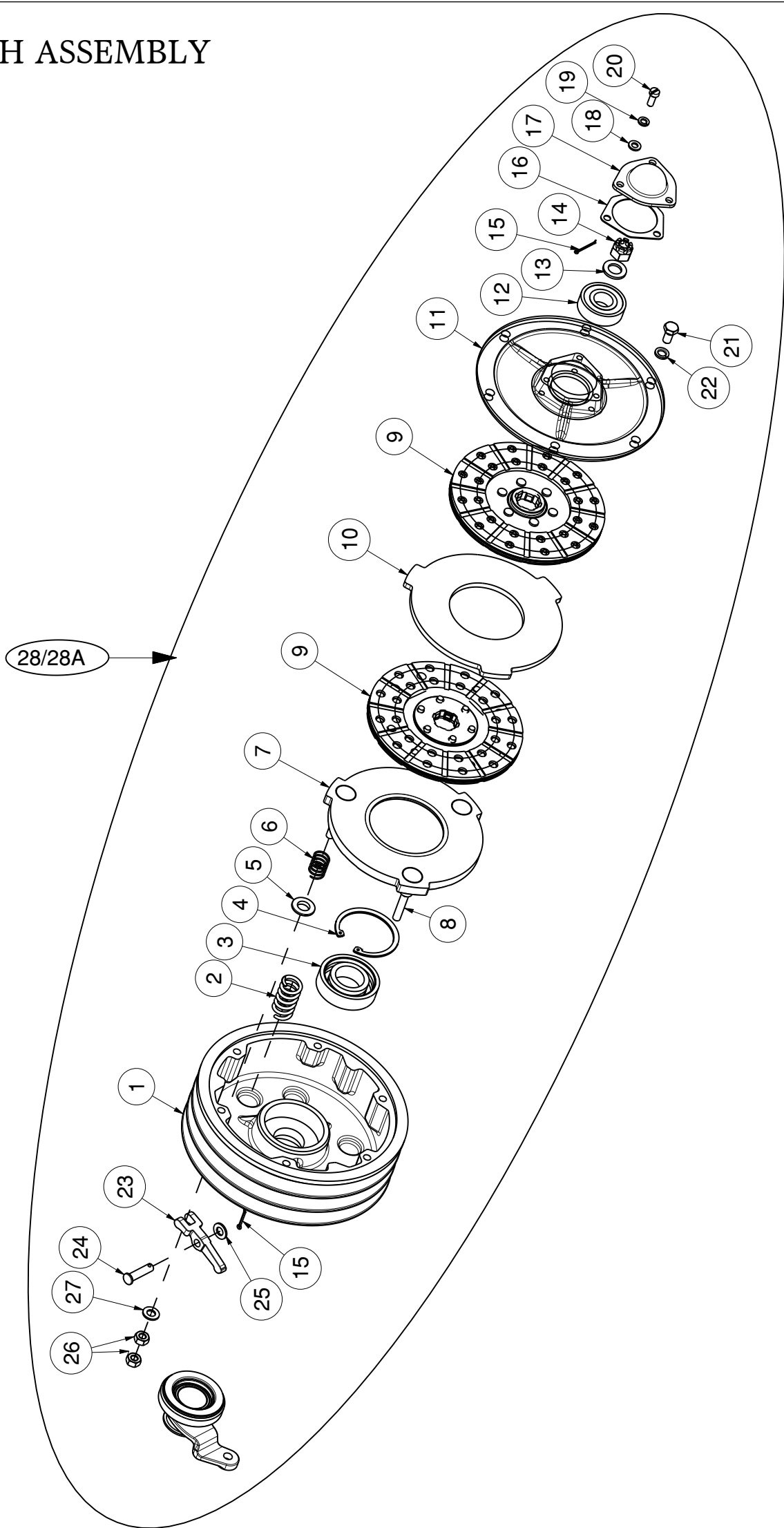
BULL HOUSING ASSEMBLY RH



## BULL HOUSING ASSEMBLY - RIGHT

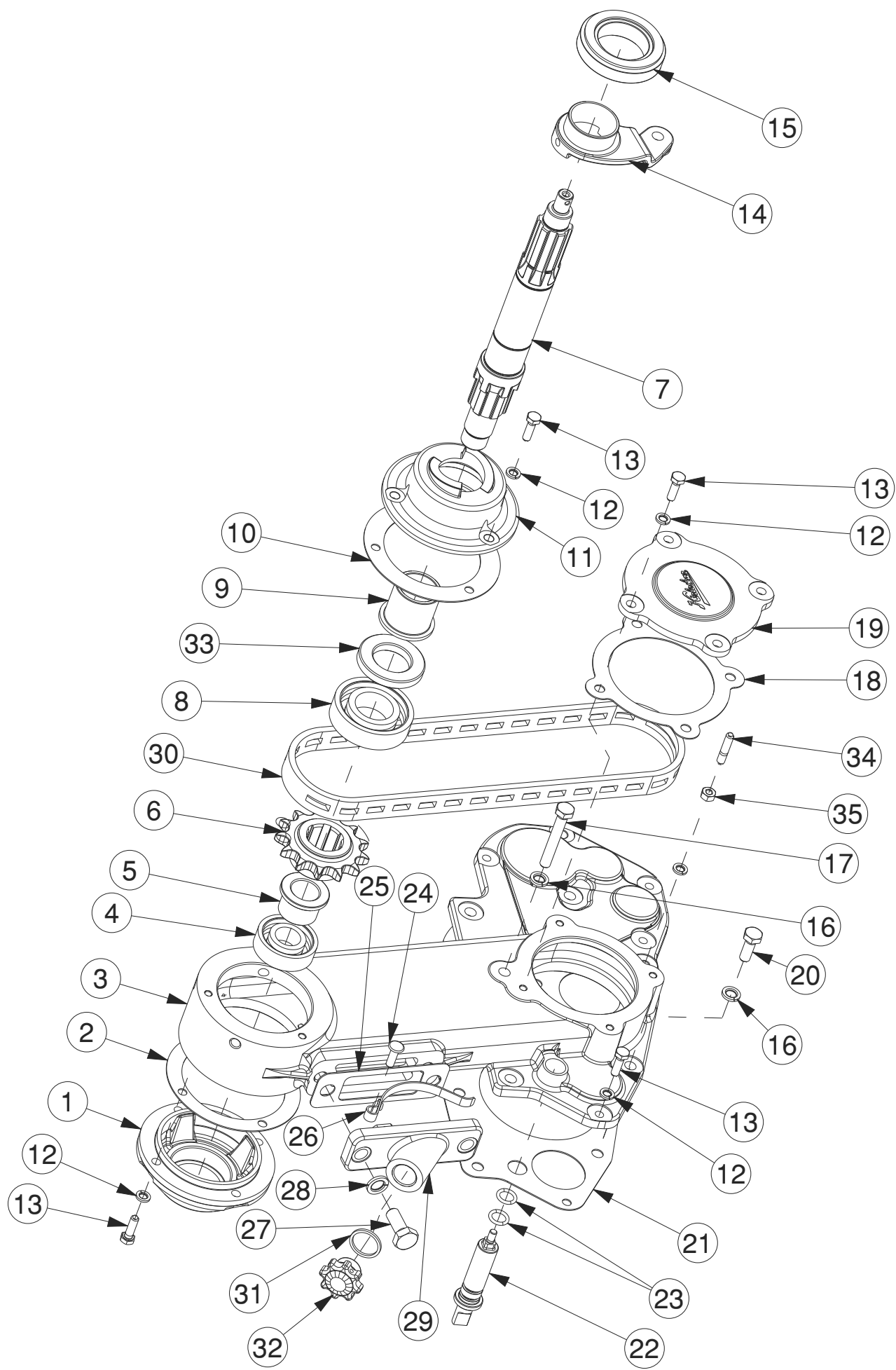
Sr. No.	ITEM	DESCRIPTION	QTY
1	P12.0908.058.0.PR	HOUSING RH, BULL GEAR	1
2	P12.0908.085.0.PR	PAPER GASKET, BULL GEAR HSG.	1
3	P15.0901.562.0.PR	BEARING 6205	1
4	P12.0908.013.0.PR	GEAR WITH BULL SHAFT	1
5	P12.0908.069.0.PR	BEARING 6206	2
6	P12.0908.009.0.PR	Gear Main Reduction	1
7	50.501.28.000.	CIRCLIP EXTERNAL - 28 MM	1
8	P12.0908.014.0.PR	DRIVE AXLE	1
9	P12.0908.012.0.PR	GEAR BULL	1
10	P12.0908.112.0.PR	SPACER, BULL GEAR	1
11	P15.1901.561.0.PR	BEARING 6208	1
12	P15.1901.071.0.PR	Oil Seal 62 x 40 x 8	2
13	P12.0908.087.0.PR	PAPER GASKET, FOR BULL HOUSING	1
14	P12.0908.062.0.PR	Cover Bull Hsg RH	1
15	50.003.10.025.	SET SCREW - M10X1.5X25 - 8.8	7
16	50.505.10.000.	SPRING WASHER - M10	7
17	57.010.14.035.	STUD M14X2X35-8.8 WITH TRIVALENT PLATING	4
18	P15.1601.508.0.PR	NUT - M14X2 - GR.8.8 WITH TRIVALENT PLATING	4
19	P12.2051.072.0.PR	DRAIN PLUG ASSEMBLY	1
20	P12.2051.086.0.PR	O - RING FOR DRAIN PLUG	1
21	50.505.12.000.	SPRING WASHER - M12	2
22	50.003.12.030.	SET SCREW - M12X1.75X30 - 8.8	1
23	50.011.12.025.	ALLEN SCREW, M12X1.75X25	1
24	P12.0908.114.0.PR	SPACER BIG FINAL REDUCTION	1
25	P12.0908.113.0.PR	SPACER SMALL FINAL REDUCTION	1
26	57.505.14.000.	SPRING WASHER - M14 WITH TRIVALENT PLATING	4
27	57.507.14.000.	PLAIN WASHER - M14 WITH TRIVALENT PLATING	4
28	50.401.06.025	Dowel Pin 06X25	1
29	50.008.14.000.	LOCK NUT - M14	4
30	50.501.30.000.	CIRCLIP EXTERNAL - 30 MM	1

CLUTCH ASSEMBLY



CLUTCH ASSEMBLY			
Sr. No.	PART NO.	DESCRIPTION	QTY
1	P15.1001.215.0.PR	PULLEY, THREE GROOVES CLUTCH	1
2	P15.1001.221.0.PR	CLUTCH SPRING	6
3	P15.1101.062.0.PR	6206-Z BALL BEARING	1
4	50.502.62.000.	62 CIRCLIP FOR HOLE	1
5	P15.1001.223.0.PR	SEAL RING, DUST PROOF	3
6	P15.1001.222.0.PR	SPRING, PRESSURE PLATE BOLT	3
7	P15.1001.017.0.PR	PRESSURE PLATE CLUTCH	1
8	P15.1001.225.0.PR	BOLT, PRESSURE PLATE	3
9	P15.1001.012.0.PR	FRICTION DISC SUB ASSLY	2
10	P15.1001.026.0.PR	DRIVING DISC	1
11	P15.1001.216.0.PR	END COVER, CLUTCH	1
12	P15.1001.061.0.PR	6204-Z C3 BALL BEARING	1
13	P15.1001.034.0.PR	WASHER-M12 FOR CLUTCH	1
14	P15.1001.036.0.PR	CASTLE NUT-M12X1.75, FOR CLUTCH	1
15	50.001.02.025.	3X25 SPIT PIN	4
16	P15.1001.013.0.PR	PAPER GASKET CLUTCH	1
17	P15.1001.007.0.PR	BEARING COVER	1
18	50.507.06.000.	PLAIN WASHER-M6	3
19	50.505.06.000	SPRING LOCK WASHER-M6	3
20	50.003.06.016	M6X16 SCREW, SLOTTED PAN HEAD	3
21	50.003.08.016	M8X1.25X16 HEX HEAD SET SCREW	6
22	50.505.08.000.	SPRING LOCK WASHER-M8	6
23	P15.1001.208.0.PR	THROW OUT LEVER, CLUTCH	3
24	P15.1301.237.0.PR	CLEVIS PIN WITH HEAD DIA 8x32, CLUTCH	3
25	50.507.08.000	PLAIN WASHER-M8	3
26	50.006.08.000.	M8X1.25 HEX NUT	6
27	P15.1001.035.0.PR	WASHER M8 FOR CLUTCH LEVER	3
28	P15.1001.040.0.PR	CLUTCH ASSY. - CERAMETALLIC LINING	1
28A	P15.1101.050.0.PR	CLUTCH ASSEMBLY CERAMETALLIC FRICTION LINING - WET LAND	1

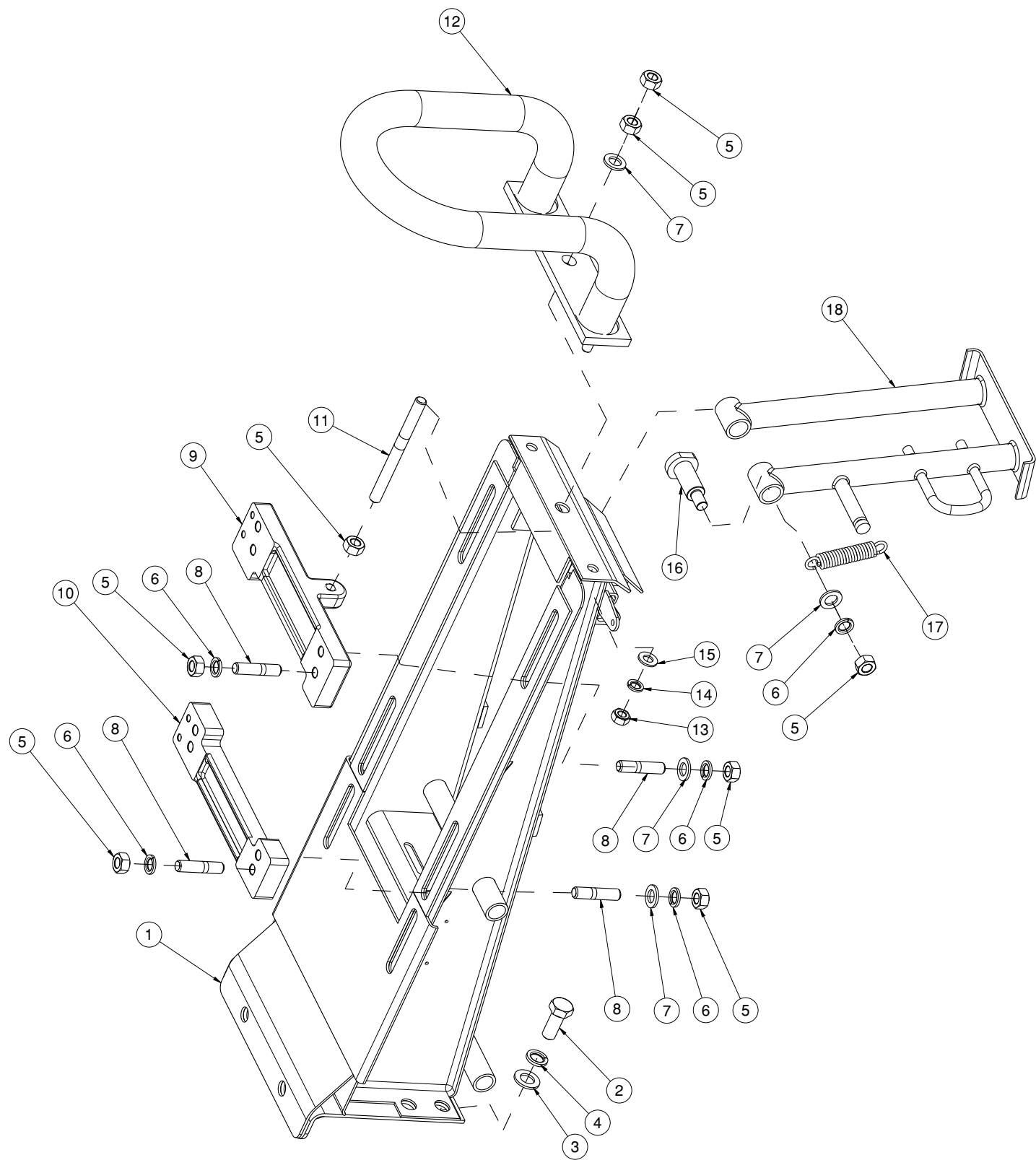
CHAIN TRANSMISSION CASE





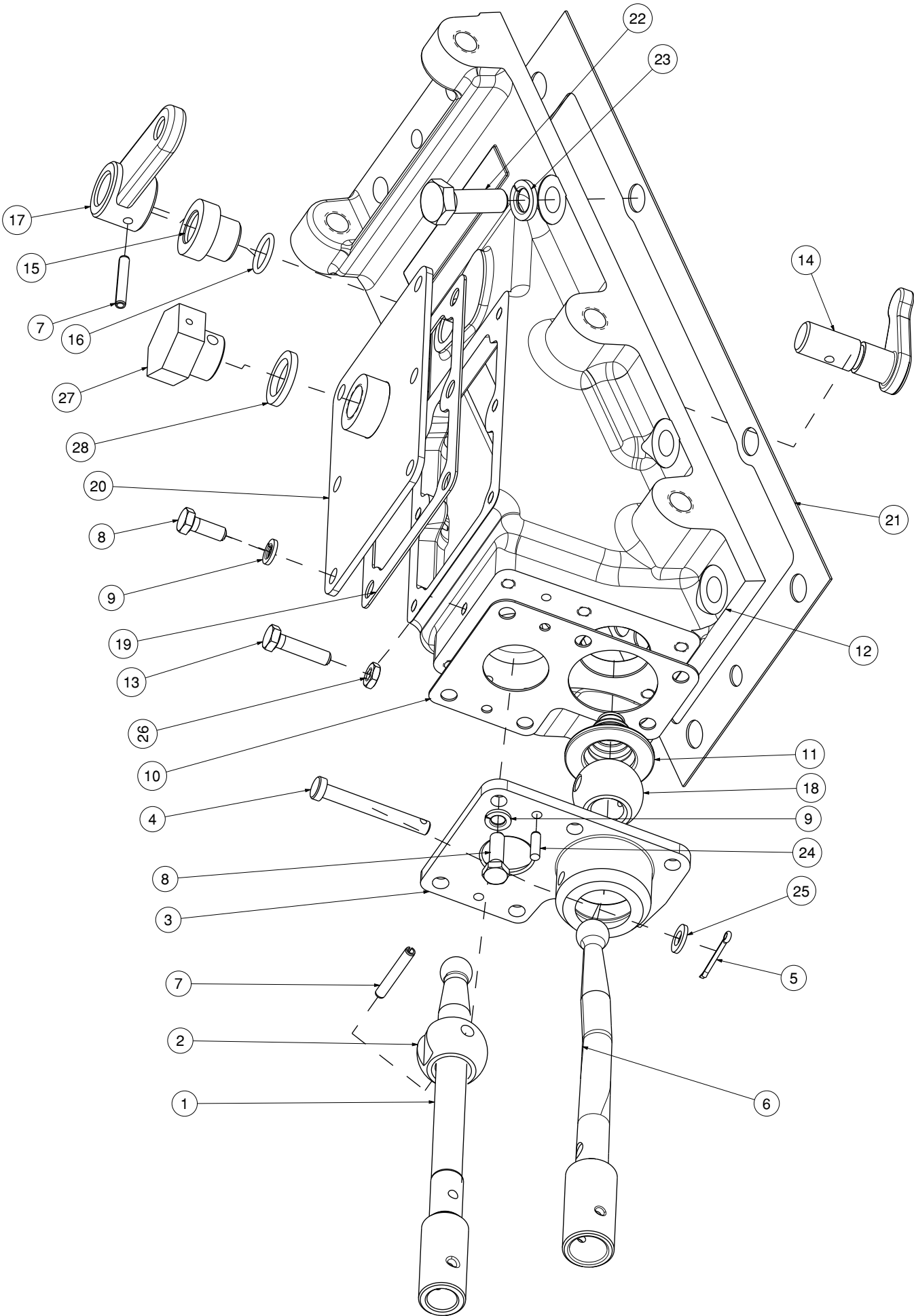
CHAIN TRANSMISSION CASE			
Sr. No.	ITEM	DESCRIPTION	QTY
1	P12.1108.054.0.PR	BEARING SEAT RIGHT CHAIN TRANSMISSION	1
2	P12.1108.084.0.PR	GASKET, BEARING SEAT RIGHT	1
3	P12.1108.051.0.PR	HOUSING CHAIN TRANSMISSION	1
4	P15.0901.561.0.PR	BEARING 6204	1
5	P12.1108.101.0.PR	BUSH CLUTCH SHAFT	1
6	P12.1108.001.0.PR	DRIVING SPROCKET CLUTCH	1
7	P12.1108.002.0.PR	SHAFT CLUTCH	1
8	P12.0908.069.0.PR	Bearing 6206	1
9	P12.1101.007.0.PR	BUSH, LEVER,CLUTCH ACTUATION	1
10	P12.1108.083.0.PR	GASKET, BEARING SEAT LEFT	1
11	P12.1108.053.0.PR	BEARING SEAT LEFT CHAIN TRANSMISSION	1
12	50.505.06.000.	SPRING WASHER - M6	18
13	50.003.06.020.	SET SCREW - M6X1X20 - 8.8	17
14	P15.1101.024.0.PR	CLUTCH ACTUATING LEVER	1
15	P15.1101.062.0.PR	CLUTCH RELEASE BEARING	1
16	50.505.08.000.	SPRING WASHER - M8	5
17	50.003.08.055.	SET SCREW - M8X1.25X55 - 8.8	1
18	P12.1108.086.0.PR	GASKET, BEARING COVER CHAIN TRANSMISSION	1
19	P12.1108.052.0.PR	BEARING COVER CHAIN TRANSMISSION	1
20	57.003.08.020.	SET SCREW - M8X1.25X20 - 8.8	4
21	P12.1108.085.0.PR	GASKET CHAIN TRANSMISSION	1
22	P12.1108.003.0.PR	BRAKE SHAFT	1
23	P15.1101.085.0.PR	O-RING SEAL 16X2.4	2
24	50.523.07.018.	FLAT HEADED RIVET (6 DIA X 18MM LONG)	1
25	P12.1108.081.0.PR	GASKET, COVER TENSION PLATE	1
26	P12.1108.151.0.PR	TENSION PLATE RIVETTED	1
27	50.003.10.025.	SET SCREW - M10X1.5X25 - 8.8	2
28	50.505.10.000.	SPRING WASHER - M10	2
29	P12.1108.055.0.PR	COVER TENSION PLATE	1
30	P12.1108.071.0.PR	CHAIN ASSEMBLY TRANSMISSION	1
31	P12.2051.084.0.PR	RUBBER WASHER FOR DRAIN PLUG	1
32	P12.2051.071.0.PR	BREATHER PLUG	1
33	P12.1108.089.0.PR	OIL SEAL 30X52X8	1
34	50.010.06.020.	STUD - M6X1X20	1
35	50.006.06.000.	NUT - M6X1	1

CHASSIS FRAME ASSEMBLY



BASEFRAME ASSEMBLY			
Sr. No.	ITEM	DESCRIPTION	QTY
1	P12.1208.151.0.PR	BASE FRAME ASSEMBLY	1
2	50.003.14.035.	SET SCREW - M14X2X35 - 8.8	4
3	50.507.14.000.	PLAIN PUNCHED WASHER - M14	4
4	50.505.14.000.	SPRING WASHER - M14	4
5	50.006.12.000.	NUT - M12X1.75 - GR.8	13
6	50.505.12.000.	SPRING WASHER - M12	10
7	50.507.12.000.	PLAIN PUNCHED WASHER - M12	7
8	50.010.12.035.	STUD - M12X1.75X35 - 8.8	8
9	P12.1201.141.0.PR	MOUNTING PLATE FRONT	1
10	P12.1205.142.0.PR	MOUNTING PLATE REAR	1
11	P12.1201.123.0.PR	STUD ADJUSTING	1
12	P15.1201.004.0.PR	GUARD ASSY, FRONT	1
13	57.006.10.000.	NUT - M10X1.5 - GR.8	2
14	57.505.10.000.	SPRING WASHER - M10	2
15	57.507.10.000.	PLAIN PUNCHED WASHER - M10	2
16	P12.1201.224.0.PR	PIVOT BOLT, FRONT STAND	2
17	P15.1201.021.0.PR	SPRING, FRONT STAND	1
18	P15.1201.103.0.PR	STAND ASSEMBLY	1

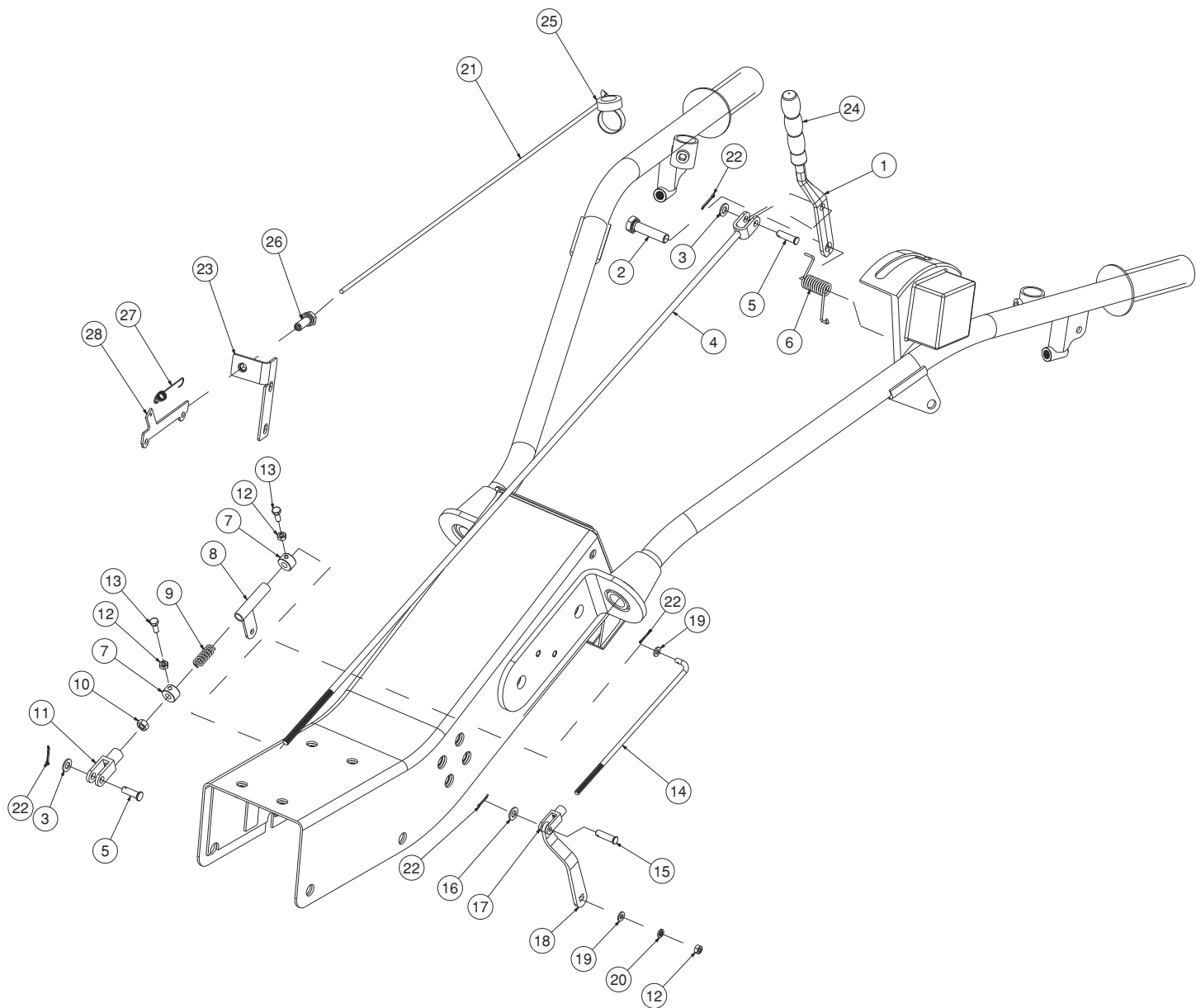
TOP COVER ASSEMBLY



## TOP COVER ASSEMBLY

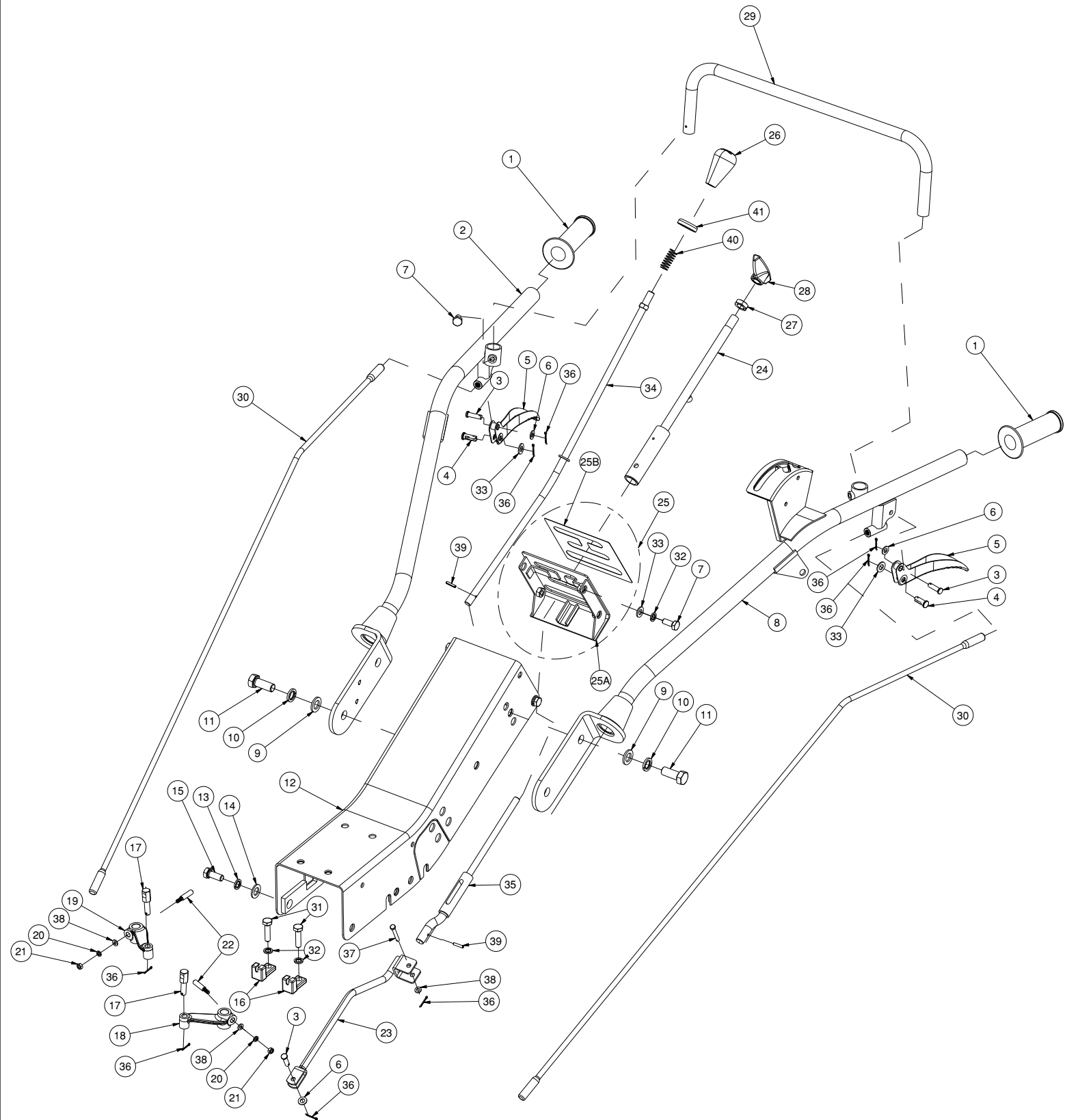
Sr. No.	ITEM	DESCRIPTION	QTY.
1	P12.1308.001.0.PR	GEAR SHIFTER LEVER	1
2	P12.1308.085.0.PR	BALL, PIVOT SHIFTER LEVER	1
3	P12.1308.052.0.PR	COVER SHIFTER LEVER	1
4	P12.1308.102.0.PR	CLEVIS PIN WITH HEAD DIA. 6X50	1
5	50.001.03.020.	SPLIT COTTER PIN - 2.5X20	1
6	P12.1308.003.0.PR	GEAR SHIFTER LEVER ROTOTILLER	1
7	50.540.07.030.	SPRING DOWEL PIN 4X30	2
8	50.003.06.016.	SET SCREW - M6X1X16 - 8.8	12
9	50.505.06.000.	SPRING WASHER - M6	12
10	P12.1308.082.0.PR	GASKET, COVER GEAR SHIFTER	1
11	P12.1308.086.0.PR	SEAL RUBBER	1
12	P12.1308.051.0.PR	TOP COVER	1
13	50.003.06.025.	SET SCREW - M6X1X25 - 8.8	1
14	P12.1308.002.0.PR	ROCKER FINGER, HIGH LOW SPEED	1
15	P12.1308.101.0.PR	BUSH ROCKER FINGER, HIGH-LOW SPEED	1
16	P12.1308.088.0.PR	O RING 14X2	1
17	P12.1308.054.0.PR	ARM JOINT HI-LOW	1
18	P12.1308.089.0.PR	BALL, ROTOR SHIFTER LEVER	1
19	P12.1308.083.0.PR	GASKET, TOP COVER PLATE	1
20	P12.1308.053.0.PR	COVER TOP PLATE	1
21	P12.1308.081.0.PR	GASKET, TOP COVER ASSEMBLY	1
22	50.003.10.030.	SET SCREW - M10X1.5X30 - 8.8	6
23	50.505.10.000.	SPRING WASHER - M10	6
24	50.401.05.014.	DOWEL PIN 05x14	2
25	50.507.06.000.	Plain Washer M6	1
26	50.008.06.000.	LOCK NUT - M6X1.25	1
27	P15.2001.051.0.PR	BREATHER BOLT	1
28	P15.2001.052.0.PR	ALUMINIUM WASHER	1

# THROTTLE, CLUTCH & BRAKE CONTROLS



THROTTLE CLUTCH AND BRAKE CONTROLS			
Sr. No.	ITEM	DESCRIPTION	QTY
1	P15.1401.036.0.PR	LEVER, CLUTCH / BRAKE	1
2	57.002.12.060.	SET BOLT - M12X1.75X60 - 8.8	1
3	57.507.08.000.	PLAIN PUNCHED WASHER - M8	2
4	P15.1401.041.0.PR	PULL ROD ASSEMBLY	1
5	P15.1401.061.0.PR	CLEVIS PIN WITH HEAD DIA 8 x 25	2
6	P15.1401.054.0.PR	SPRING, LEVER CONTROLS	1
7	P15.1401.038.0.PR	LOCKING COLLAR	2
8	P15.1401.039.0.PR	LUG	1
9	P15.1401.053.0.PR	SPRING , PULL ROD CLUTCH	1
10	57.006.08.000.	NUT- M8X1.25 - GR.8	1
11	P15.1401.031.0.PR	CONNECTING CLEVIS, CLUTCH	1
12	57.006.06.000.	NUT - M6X1 - GR.8	3
13	57.003.06.016.	SET SCREW - M6X1X16 - 8.8	2
14	P15.1401.035.0.PR	CONNECTING ROD, BRAKE	1
15	P15.1401.062.0.PR	CLEVIS PIN WITH HEAD DIA 5 x 20	1
16	57.507.05.000.	PLAIN PUNCHED WASHER - M5	1
17	P15.1401.032.0.PR	CONNECTING CLEVIS, BRAKE	1
18	P15.1401.033.0.PR	CONNECTING LEVER - BRAKE	1
19	57.507.06.000.	PLAIN PUNCHED WASHER - M6	3
20	57.505.06.000.	SPRING WASHER - M6	1
21	P15.1401.064.0.PR	ACCELERATOR CABLE	1
22	50.001.03.020.	SPLIT COTTER PIN - 2.5X20	3
23	P12.1401.545.0.PR	PLATE MTG. ACCELERATOR CABLE	1
24	P15.1401.056.0.PR	GRIP - LEVER CLUTCH BRAKE LEVER	1
25	P15.1401.155.0.PR	ACCELERATOR CONTROL ASSEMBLY	1
26	P15.1401.051.0.PR	SCREW, CABLE ACCELERATOR	1
27	P12.1401.051.0.PR	ACCELERATOR SPRING,	1
28	P12.1401.545.0.PR	PLATE MTG. ACCELERATOR CABLE	1

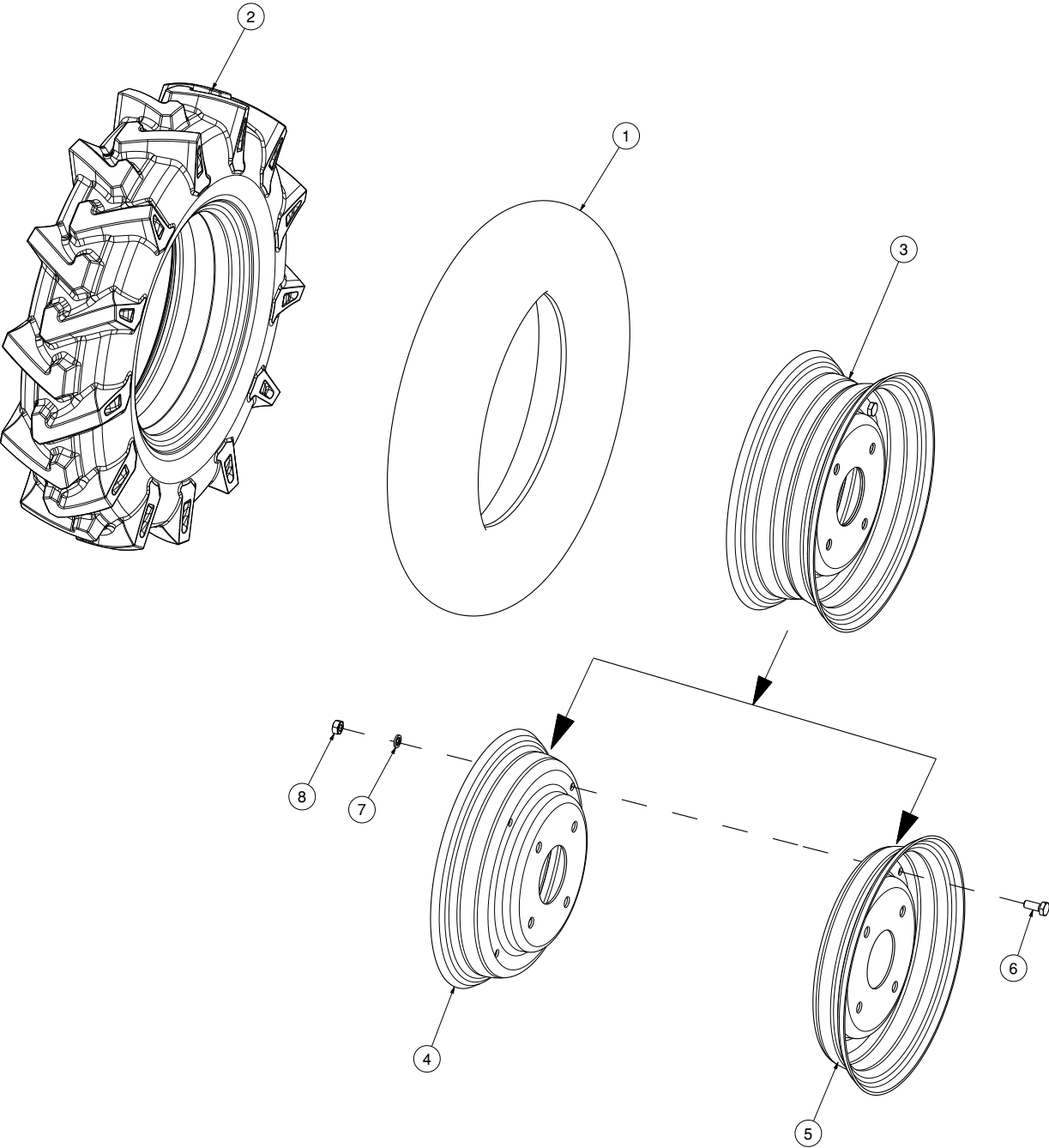
# STEERING CONTROL, GEAR SHIFTING & HANDLE BAR FRAME





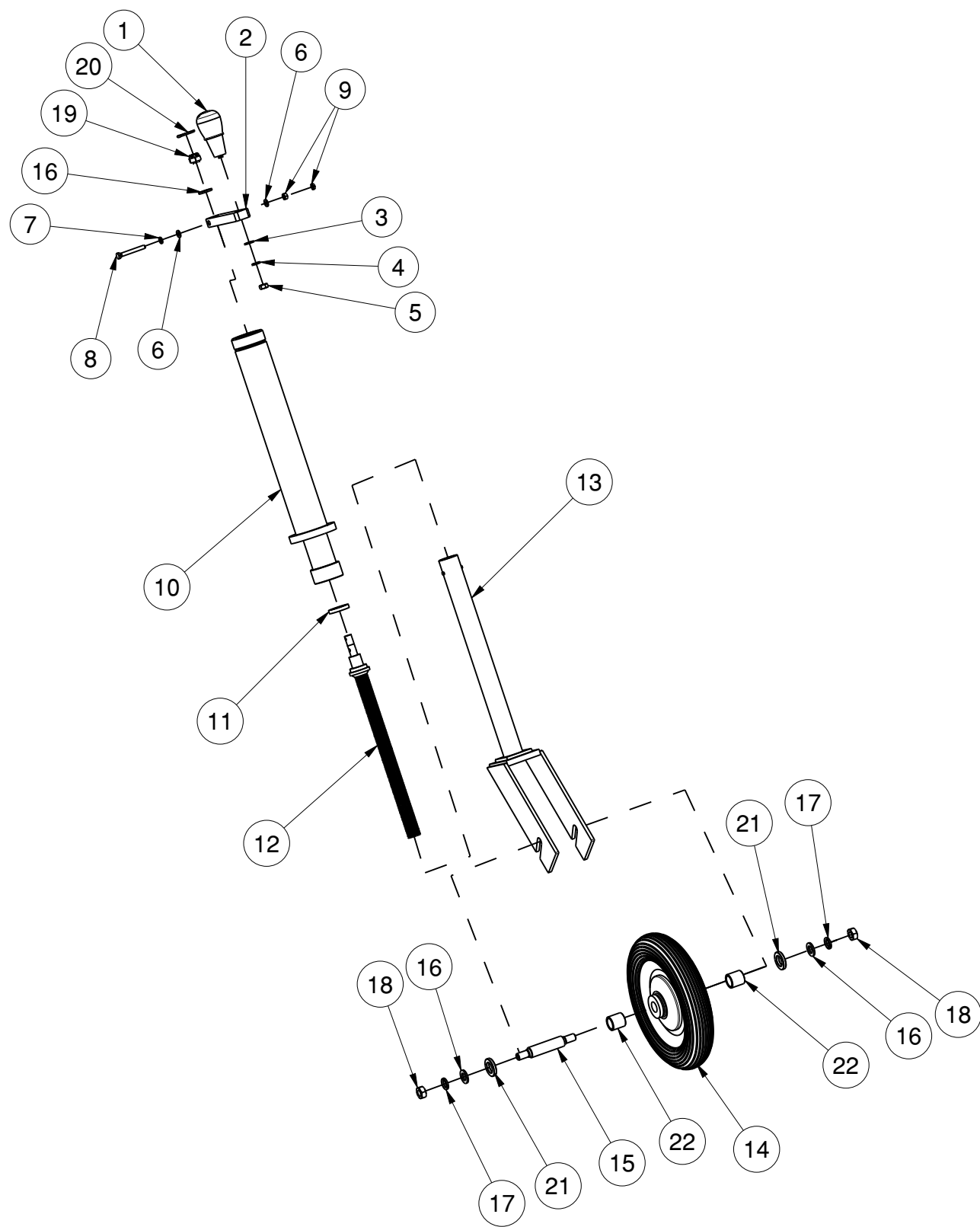
STEERING CONTROL, GEAR SHIFTING & HANDLE BAR FRAME			
Sr. No.	ITEM	DESCRIPTION	QTY
1	P15.1501.052.0.PR	HANDLE GRIP	2
2	P15.1501.802.0.PR	HANDLE ASSLY RH	1
3	P15.1301.032.0.PR	CLEVIS PIN ARM JOINT	3
4	P15.1501.013.0.PR	DIA. 10X26 SLOTTED PIN WITH HEAD	2
5	P15.1501.251.0.PR	STEERING LEVER	2
6	57.507.08.000.	PLAIN PUNCHED WASHER - M8	2
7	57.003.10.016.	SET SCREW - M10X1.5X16 - 8.8	6
8	P15.1501.801.0.PR	HANDLE ASSLY LH	1
9	57.507.16.000.	PLAIN PUNCHED WASHER - M16	4
10	57.505.16.000.	SPRING WASHER - M16	4
11	57.003.16.040.	SET SCREW - M16X2X40 - 8.8	4
12	P12.1508.503.0.PR	STEERING MTG. COVER	1
13	57.505.12.000.	SPRING WASHER - M12	6
14	57.507.14.000.	PLAIN PUNCHED WASHER - M14	6
15	57.003.12.030.	SET SCREW - M12X1.75X30 - 8.8	6
16	P12.1508.051.0.PR	BRACKET STEERING CABLE MOUNTING	2
17	P12.1508.102.0.PR	CLEVIS PIN WITH HEX HEAD	2
18	P12.1508.395.0.PR	STEERING ARM- LH	1
19	P12.1508.396.0.PR	STEERING ARM- RH	1
20	57.505.06.000.	SPRING WASHER - M6	4
21	57.006.06.000.	NUT - M6X1 - GR.8	2
22	P15.1901.010.0.PR	CRANK PIN	2
23	P12.1508.093.0.PR	CONNECTING ROD, HI- LOW LEVER	1
24	P12.1508.094.0.PR	GEAR SHIFTER LEVER 2 - ROTOTILLER	1
25	P12.1508.157.0.PR	GEAR SHIFTER COVER ASSEMBLY	1
25A	P12.1508.152.0.PR	COVER GEAR SHIFTER	1
25B	P12.1508.082.0.PR	DECAL, GEAR SHIFTER COVER	1
26	P15.1301.035.0.PR	KNOB, GEAR SHIFTER LEVER	1
27	57.008.16.000.	LOCK NUT - M16X2 - GR.8	1
28	P12.1508.046.0.PR	KNOB ROTOR HI-LOW	1
29	P15.1501.506.0.PR	HANDLE BAR ASSEMBLY	1
30	P15.1501.164.0.PR	STEERING CABLE ASSEMBLY	2
31	57.003.10.040.	SET SCREW - M10X1X40 - 8.8	2
32	57.505.10.000.	SPRING WASHER - M10	6
33	57.507.10.000.	PLAIN PUNCHED WASHER - M10	6
34	P12.1508.091.0.PR	EXTENSION ROD OF GEAR SHIFTER LEVER	1
35	P12.1508.092.0.PR	GEAR SHIFTER LEVER 1 ROTOTILLER	1
36	50.001.03.020.	SPLIT COTTER PIN - 2.5X20	8
37	P12.1308.102.0.PR	CLEVIS PIN 6 X 50	1
38	57.507.06.000.	PLAIN PUNCHED WASHER - M6	3
39	50.540.07.022.	SPRING DOWEL PIN 4X22	2
40	P12.1508.081.0.PR	SPRING, SHIFTER LEVER	1
41	P12.1508.154.0.PR	COVER, SHIFTER LEVER SPRING	1

DRIVE WHEEL ASSEMBLY



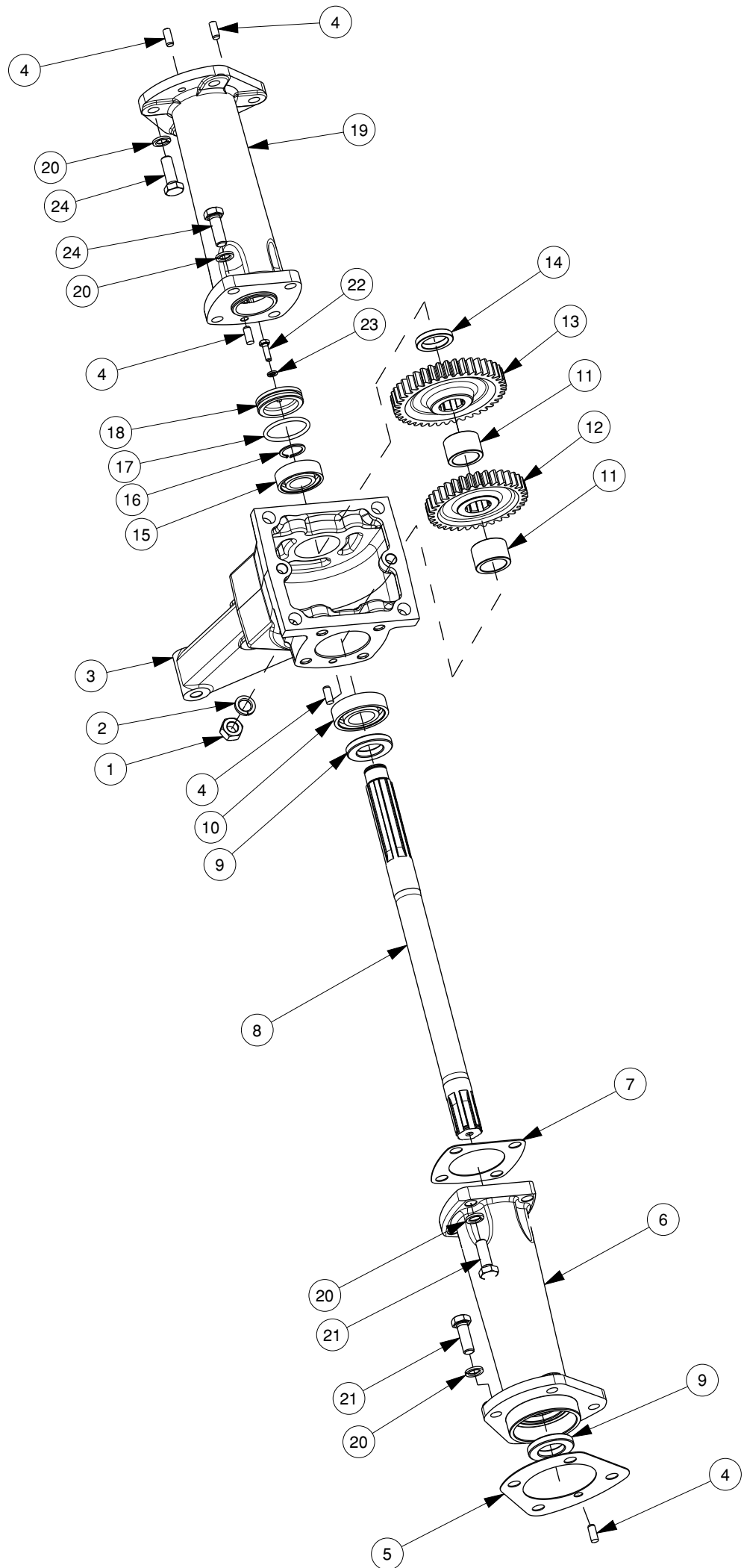
DRIVE WHEEL ASSEMBLY			
Sr. No.	ITEM	DESCRIPTION	QTY.
1	P15.1601.004.0.PR	TUBE 6-12	2
2	P15.1601.003.0.PR	TYRE 6-12	2
3	P15.1601.005.0.PR	SPLIT WHEEL 4 x 12 (Consists Sr. No. 4,5)	2
4	P15.1601.006.0.PR	RIM1	2
5	P15.1601.007.0.PR	RIM2	2
6	57.003.10.025.	SET SCREW - M10X1.5X25 - 8.8	8
7	57.505.10.000.	SPRING WASHER - M10	8
8	57.006.10.000.	NUT - M10X1.5 - GR.8	8

TAIL WHEEL ASSEMBLY



TAIL WHEEL ASSEMBLY			
S.N.	ITEM	DESCRIPTION	QTY.
1	P15.1801.031.0.PR	KNOB, TAIL WHEEL ADJUSTING	1
2	P12.1808.104.0.PR	ADJUSTING LEVER TAIL WHEEL	1
3	57.507.08.000.	PLAIN PUNCHED WASHER - M8	1
4	57.505.08.000.	SPRING WASHER - M8 PLATED	1
5	57.006.08.000.	NUT- M8X1.25 - GR.8	1
6	57.507.06.000.	PLAIN PUNCHED WASHER - M6	2
7	57.505.06.000.	SPRING WASHER - M6	1
8	57.003.06.050.	SET SCREW - M6X1X50	1
9	57.006.06.000.	NUT - M6X1 - GR.8	2
10	P12.1808.151.0.PR	SLEEVE ASSEMBLY, TAIL WHEEL	1
11	P12.1808.101.0.PR	THRUST WASHER	1
12	P12.1808.103.0.PR	SCREW, TAIL WHEEL	1
13	P12.1808.153.0.PR	FORK ASSEMBLY FOR TAIL WHEEL	1
14	P12.1808.021.0.PR	WHEEL ASSEMBLY	1
15	P12.1808.102.0.PR	TAIL WHEEL SHAFT	1
16	57.507.12.000.	PLAIN PUNCHED WASHER - M12	3
17	57.505.12.000.	SPRING WASHER - M12	2
18	57.006.12.000.	NUT - M12X1.75 - GR.8	2
19	50.050.12.000.	CASTLE NUT M12	1
20	50.001.04.020.	SPLIT COTTER PIN - 3.2X20	1
21	P12.1508.104.0.PR	SPACER FOR TAILWHEEL	2
22	P12.1808.105.0.PR1	BUSH FOR TAILWHEEL	2

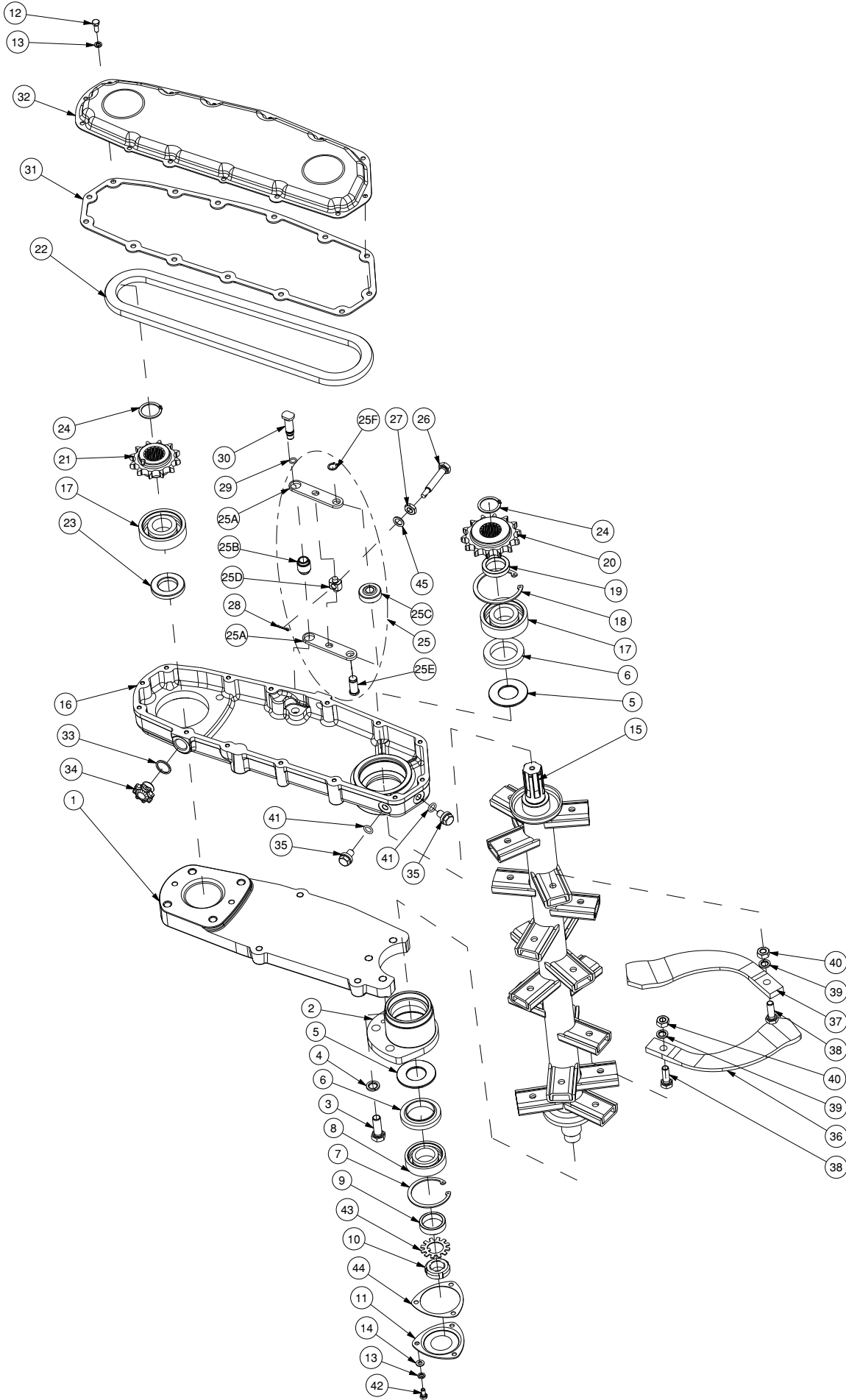
# ROTOTILLER GEAR BOX ASSEMBLY



## ROTOTILLER GEARBOX ASSEMBLY

Sr. No.	ITEM	DESCRIPTION	QTY.
1	50.006.14.000.	NUT - M14X2 - GR.8.8	4
2	50.505.14.000.	SPRING WASHER - M14	4
3	P12.1951.051.0.PR	HOUSING ROTOTILLER GEAR BOX	1
4	50.401.08.020.	DOWEL PIN 8X18	5
5	P12.1951.082.0.PR	GASKET ARM SUPPORTING RIGHT	1
6	P12.1951.053.0.PR	HOUSING ROTOTILLER SHAFT RH	1
7	P12.1951.081.0.PR	GASKET 2, ARM SUPPORTING (RIGHT)	1
8	P12.1951.003.0.PR	SHAFT ROTOTILLER GEAR BOX	1
9	P12.1108.089.0.PR	OIL SEAL 30 X 52 X 8	2
10	P12.0908.069.0.PR	BEARING 6206	1
11	P12.1951.103.0.PR	SPACER FOR ROTOTILLER SHAFT	2
12	P12.1951.001.0.PR	GEAR ROTARY HIGH	1
13	P12.1951.002.0.PR	GEAR ROTARY LOW	1
14	P12.1951.102.0.PR	SPACER FOR ROTOR SHAFT	1
15	P15.0901.562.0.PR	BEARING 6205	1
16	50.501.25.000.	CIRCLIP EXTERNAL - 25 MM	1
17	P12.1951.083.0.PR	O RING 53X4	1
18	P12.1951.101.0.PR	CAP FOR ROTOTILLER HOUSING	1
19	P12.1951.052.0.PR	HOUSING ROTOTILLER SHAFT LH	1
20	50.505.12.000.	SPRING WASHER - M12	16
21	50.003.12.040.	SET SCREW - M12X1.75X40 - 8.8	8
22	50.003.06.010.	SET SCREW - M6X1X10 - 8.8	1
23	50.505.06.000.	SPRING WASHER - M6	1
24	50.003.12.035.	SET SCREW - M12X1.75X35 - 8.8	8

ROTOTILLER TRANSMISSION AND SHAFT ASSEMBLY



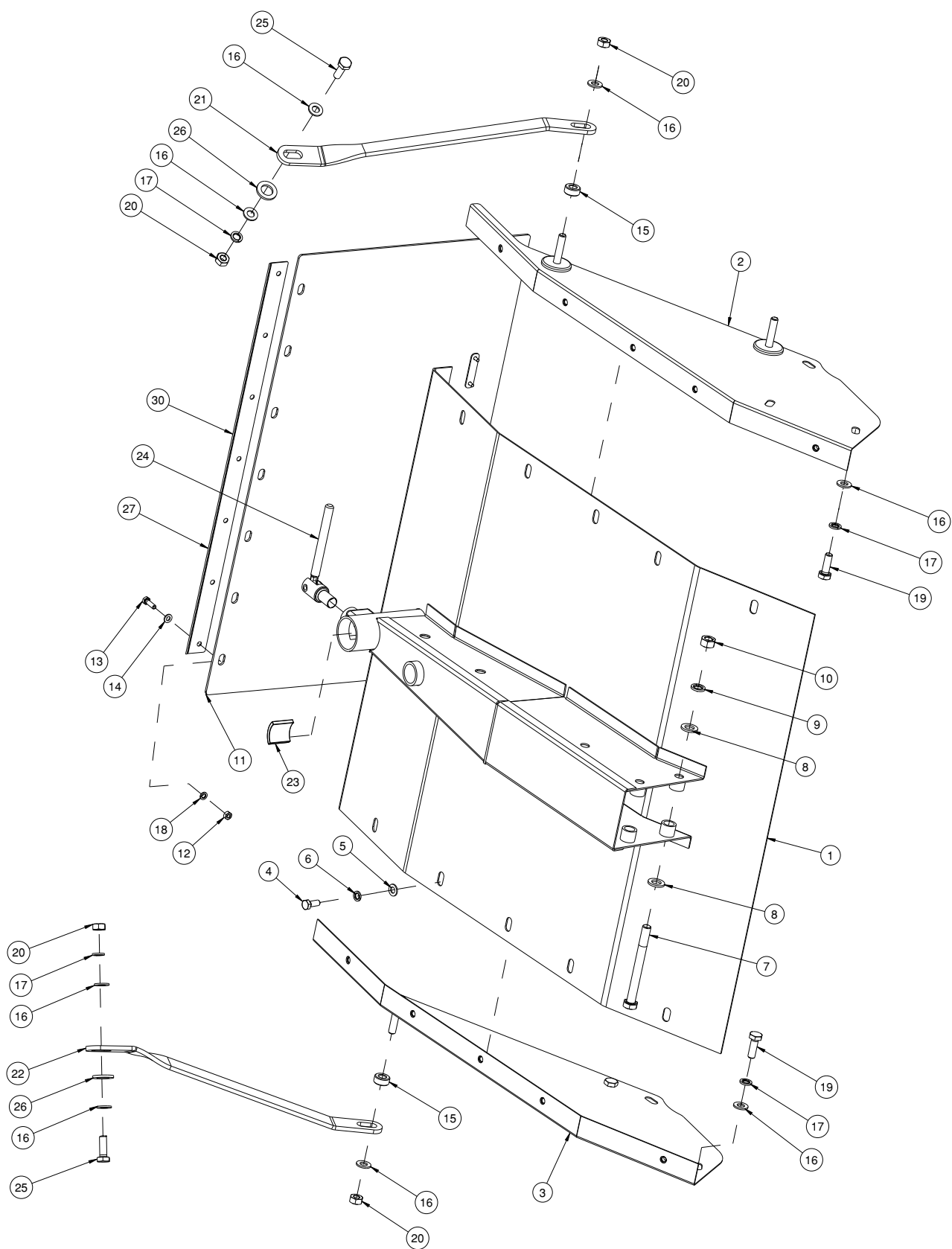


## ROTOTILLER TRANSMISSION AND SHAFT ASSEMBLY

Sr. No.	ITEM	DESCRIPTION	QTY
1	P12.2051.051.0.PR	CASE ROTARY SIDE LH	1
2	P12.2051.353.0.PR	CASE BEARING ROTARY SHAFT	1
3	50.003.12.035.	SET BOLT - M12X1.5X35 - 8.8	3
4	50.505.12.000.	SPRING WASHER - M12	3
5	P12.2051.103.0.PR	SPACER FOR ROTARY SHAFT	2
6	P15.2001.076.0.PR	OIL SEAL 42 X 62 X 11.5	2
7	50.502.62.000.	CIRCLIP INTERNAL - 62 MM	1
8	P12.0908.069.0.PR	BEARING 6206	1
9	P12.2051.111.0.PR	SPACER FOR ROTOR SHAFT	1
10	P12.2051.073.0.PR	Nut Slotted	2
11	P12.2051.157.0.PR	COVER	1
12	50.003.06.016.	SET SCREW - M6X1X16 - 8.8	14
13	50.505.06.000.	SPRING WASHER - M6 PLATED	17
14	50.507.06.000.	PLAIN PUNCHED WASHER -M6	3
15	P12.2051.355.0.PR	ROTOTILLER SHAFT	1
16	P12.2051.352.0.PR	CASE ROTARY CHAIN RH	1
17	P15.1101.561.0.PR	BEARING 6306	2
18	50.502.72.000.	CIRCLIP INTERNAL - 72 MM	1
19	P12.2051.113.0.PR	SPACER FOR ROTOR SHAFT	1
20	P12.2051.002.0.PR	SPROCKET DRIVEN 12 TEETH	1
21	P12.2051.001.0.PR	SPROCKET DRIVING 14 TEETH	1
22	P15.3503.071.0.PR	CHAIN ROTOTILLER	1
23	P12.1108.089.0.PR	OIL SEAL 52 X 30 X 8	1
24	50.501.30.000.	CIRCLIP EXTERNAL - 30 MM	2

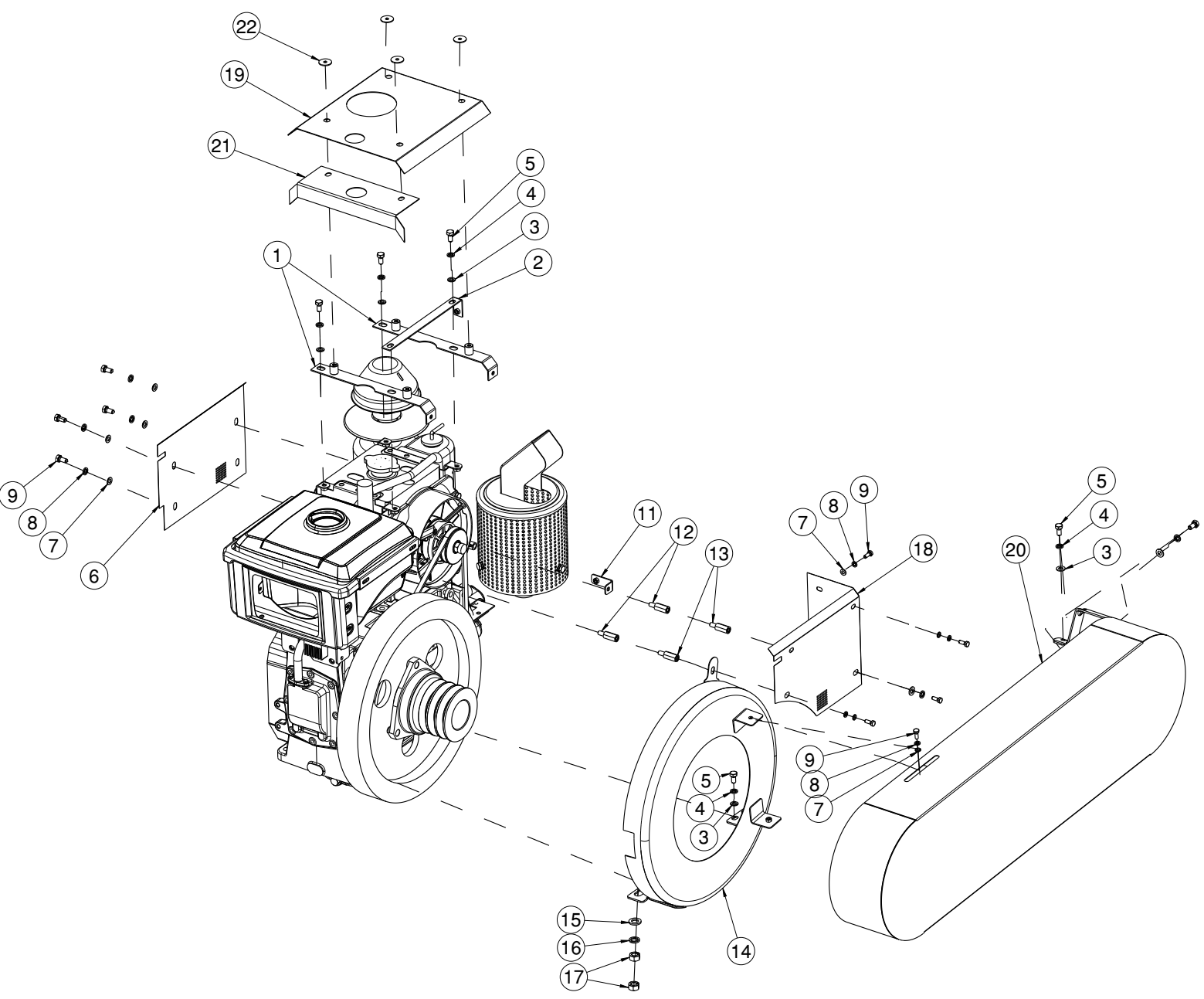
Sr. No.	ITEM	DESCRIPTION	QTY
25	P12.2051.091.0.PR	TENTIONER ASSEMBLY	1
25A	P12.2051.159.0.PR	ARM,TENSION PULLEY	2
25B	P12.2051.105.0.PR	BUSH , TENSION PULLEY	1
25C	P12.2051.079.0.PR	ROLLER , CHAIN	1
25D	P12.2051.106.0.PR	PIN	1
25E	P12.2051.107.0.PR	SHAFT , TENSION PULLEY	1
25F	50.501.12.000.	CIRCLIP ( EXTERNAL )	1
26	P12.2051.109.0.PR	BOLT FOR TENSIONER ASSEMBLY	1
27	50.008.10.000.	LOCK NUT	1
28	50.001.03.012.	SPLIT PIN.	1
29	P12.2051.083.0.PR	O-RING 12X2	1
30	P12.2051.108.0.PR	TENSTIONER BOLT	1
31	P12.2051.082.0.PR	GASKET CASE ROTORY CHAIN	1
32	P12.2051.154.0.PR	COVER, CHAIN ROTOTILLER HSG.	1
33	P12.2051.084.0.PR	RUBBER WASHER FOR DRAIN PLUG	1
34	P12.2051.071.0.PR	BREATHER BOLT	1
35	P12.2051.072.0.PR	PRECOATED DRAIN PLUG	2
36	P15.2001.022.0.PR	BLADE TILLING LEFT	9
37	P15.2001.023.0.PR	BLADE TILLING RIGHT	9
38	57.002.10.030.	SET BOLT - M10X1.5X30 - 8.8	18
39	57.505.10.000.	SPRING WASHER - M10 PLATED	18
40	57.006.10.000.	NUT - M10X1.5 - GR.8	18
41	P12.2051.086.0.PR	O - RING FOR DRAIN PLUG	2
42	50.003.06.012.	SET SCREW - M6 x 1 x 12 - 8.8	3
43	P12.2051.112.0.PR	LOCK WASHER	1
44	P12.2051.087.0.PR	GASKET, ROTOR COVER	1
45	50.508.10.000.	COPPER WASHER (12X18)	1

# ROTOTILLER COVER ASSEMBLY.



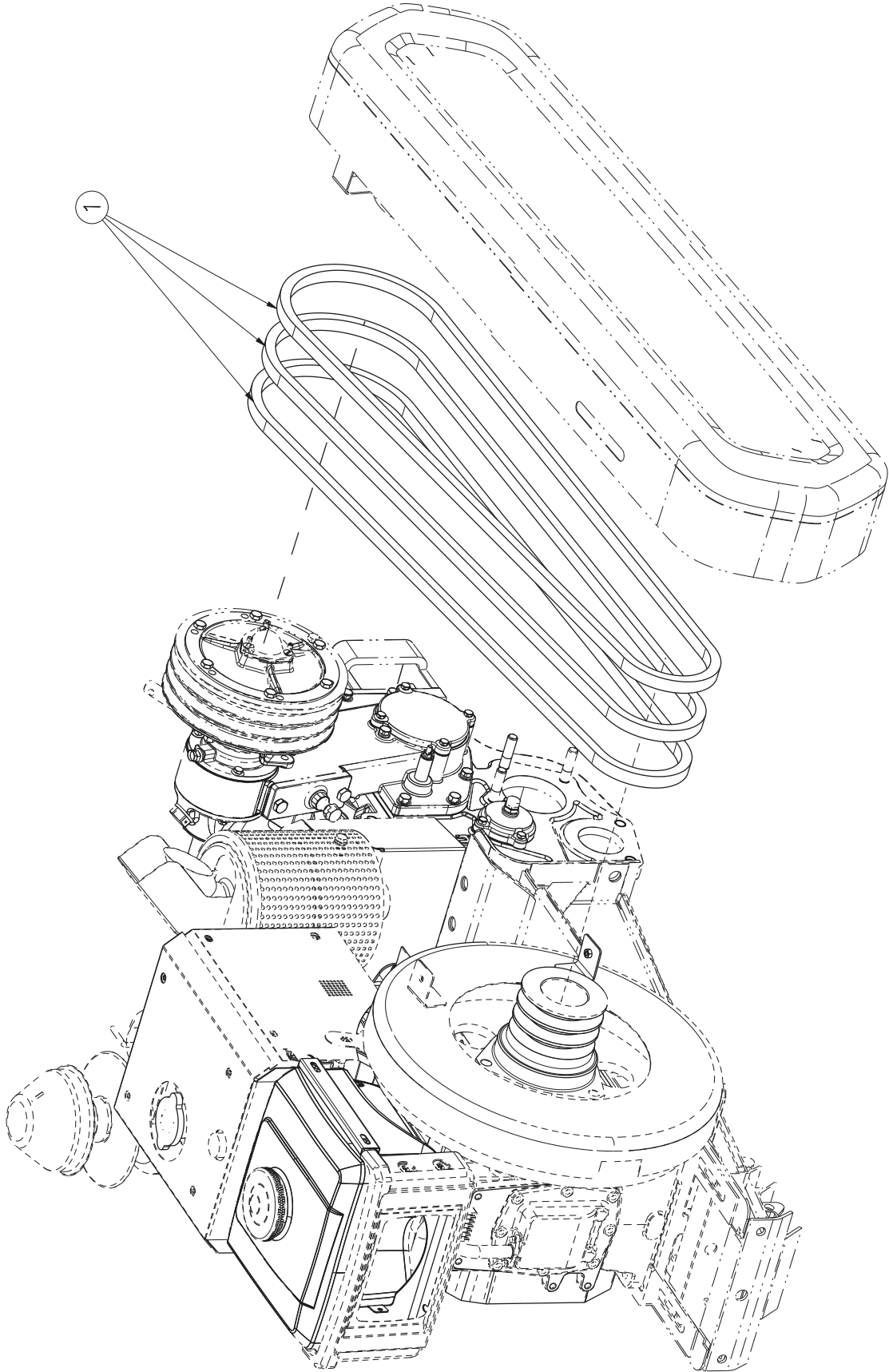
ROTOTILLER COVER ASSEMBLY			
Sr. No.	ITEM	DESCRIPTION	QTY
1	P12.2151.161.0.PR	UPPER COVER PLATE ASSEMBLY	1
2	P12.2151.162.0.PR	SIDE COVER ROTOTILLER LH	1
3	P12.2151.163.0.PR	SIDE COVER ROTOTILLER RH	1
4	57.003.08.020.	SET SCREW - M8X1.25X20 - 8.8	10
5	57.507.08.000.	PLAIN PUNCHED WASHER - M08	10
6	57.505.08.000.	SPRING WASHER - M08	10
7	57.002.12.120.	BOLT- M12 x 1.75 x 120 - 8.8	3
8	57.507.12.000.	PLAIN PUNCHED WASHER - M12	6
9	57.505.12.000.	SPRING WASHER - M12	3
10	57.006.12.000.	NUT - M12X1.75 - GR.8	3
11	P12.2151.085.0.PR	RUBBER FENDER PLATE ASSEMBLY	1
12	57.006.06.000.	NUT - M8 X1.25 - GR.8	7
13	57.003.06.020.	SET SCREW - M6 x 1 x 20 - 8.8	7
14	57.507.06.000.	PLAIN PUNCHED WASHER - M6	7
15	P15.2101.019.0.PR	SPACER SIDE COVER PLATE	2
16	57.507.10.000.	PLAIN PUNCHED WASHER - M10	14
17	57.505.10.000.	SPRING WASHER - M10	8
18	57.505.06.000.	SPRING WASHER - M6	7
19	57.003.10.030.	SET SCREW - M10X1.5X30 - 8.8	6
20	57.006.10.000.	NUT - M10 X1.5 - GR.8	4
21	P12.2151.154.0.PR	SUPPORT LH, ROTOTILLER COVER	1
22	P12.2151.155.0.PR	SUPPORT RH, ROTOTILLER COVER	1
23	P12.2051.158.0.PR	TAILWHEEL SHOE	1
24	P12.2151.101.0.PR	CLAMP ASSEMBLY	1
25	57.003.10.035.	SET SCREW - M10X1.5X35 - 8.8	2
26	57.507.16.000.	PLAIN PUNCHED WASHER - M16	2
27	P12.2151.152.0.PR	FENDER MOUNTING PLATE ASSLY	1

# SHEET METAL ASSEMBLY



SHEETMETAL ASSEMBLY			
Sr. No.	ITEM	DESCRIPTION	QTY
1	P12.2301.103.0.PR	RADIATOR COVER MTG PLATE	2
2	P12.2301.108.0.PR	TOP MTG PLATE GRILL LH	1
3	57.507.08.000.	PLAIN PUNCHED WASHER - M8	8
4	57.505.08.000.	SPRING WASHER - M8 PLATED	8
5	57.003.08.016.	SET SCREW - M8X1.25X16 - 8.8	8
6	P12.2301.105.0.PR	GRILL MESH RH	1
7	57.507.06.000.	PLAIN PUNCHED WASHER - M6	16
8	57.505.06.000.	SPRING WASHER - M6	12
9	57.003.06.016.	SET SCREW - M6X1X16 - 8.8	12
#10	57.006.06.000.	NUT - M6X1 - GR.8	4
11	P12.2301.109.0.PR	BOTTOM MTG PLATE GRILL LH	1
12	P15.2301.091.0.PR	SPACER FOR REAR BRACKET ASSLY	2
13	P12.2301.092.0.PR	SPACER FOR RADIATOR COVER MTG	2
14	P12.2301.531.0.PR	ASSEMBLY FLYWHEEL COVER	1
15	57.507.12.000.	PLAIN PUNCHED WASHER - M12	1
16	57.505.12.000.	SPRING WASHER - M12	1
17	57.006.12.000.	NUT - M12X1.75 - GR.8	2
18	P12.2301.104.0.PR	GRILL MESH LH	1
19	P12.2301.501.0.PR	RADIATOR COVER	1
20	P12.2308.151.0.PR	PULLEY COVER ASSEMBLY	1
21	P12.2301.102.0.PR	RADIATOR COVER FRONT PLATE	1
22	P15.2101.021.0.PR	RUBBER WASHER	4

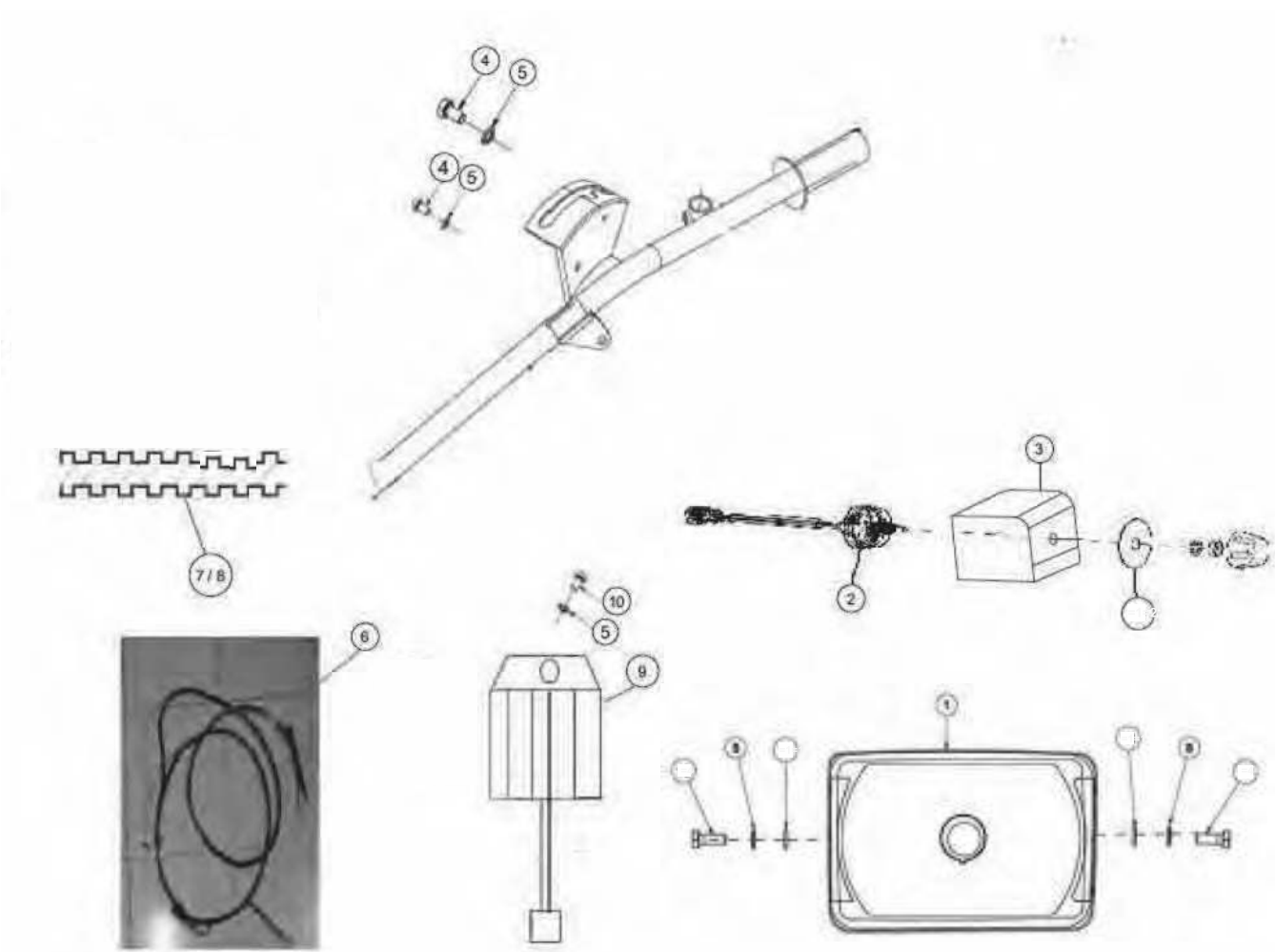
V-BELTS



### V-BELTS

Sr. No.	Item	Description	Qty.
1	P12.1001.051.0.PR	V-BELT (B-SECTION) EXCLUSIVELY FOR POWER TILLER	3

ELECTRICAL SYSTEM





## ELECTRICAL SYSTEM

Sr. No.	Item	Description	Qty.
1	P12.2201.001.0.PR	HEAD LAMP	1
2	P15.2201.074.0.PR	LIGHT SWITCH EXCLUSIVELY FOR POWER TILLER	1
3	P15.2201.172.0.PR	LIGHT SWITCH BOX (OFV) EXCLUSIVELY FOR POWER TILLER	1
4	57.003.06.016.	SET SCREW - M6X1X16 - 8.8 WITH TRIVALENT PLATING	4
5	57.505.06.000.	SPRING WASHER - M6 WITH TRIVALENT PLATING	5
6	P15.2201.858.0.00	WIRING HARNESS (OFVE) EXCLUSIVELY FOR POWER TILLER	1
7	P15.2201.086.0.PR	CORRUGATED TUBE -1 EXCLUSIVELY FOR POWER TILLER	2
8	P15.2201.087.0.PR	CORRUGATED TUBE -2 EXCLUSIVELY FOR POWER TILLER	1
9	P15.2201.100.0.PR	REGULATOR ASSEMBLY EXCLUSIVELY FOR POWER TILLER	1
10	57.003.06.025.	SET SCREW - M6X1X25 - 8.8 WITH TRIVALENT PLATING	1
11	57.507.06.000.	PLAIN PUNCHED WASHER - M6 WITH TRIVALENT PLATING	2
12	P15.2201.091.0.PR	INDICATOR PLATE EXCLUSIVELY FOR POWER TILLER	1



<b>1st Free Service</b> (50 hrs. or 1 month)	<b>1st FREE SERVICE COUPON</b> (50 hrs. or 1 month from Date Of Sale which ever is earlier)		Coupon No. :
Date of Service :	Model	Date of Sale	Dealer Code
Chassis No. :	Engine No.	Date of Service	Vendor Code
No. of working hours :	Chassis No.	Next Service Due Date	
Dlr. Stamp & Sign. :	Owner's Name:	Signature	Dealer's Seal & Signature
	Technician's Name:	Signature	



<b>2nd Free Service</b> (150 hrs. or 5 months)	<b>2nd FREE SERVICE COUPON</b> (150 hrs. or 5 months from Date Of Sale which ever is earlier)		Coupon No. :
Date of Service :	Model	Date Of Sale	Dealer Code
Chassis No. :	Engine No.	Date Of Service	Vendor Code
No. of working hours :	Chassis No.	Next Service Due Date	
Dlr. Stamp & Sign. :	Owner's Name:	Signature	Dealer's Seal & Signature
	Technician's Name:	Signature	



<b>3rd Free Service</b> (300 hrs. or 10 months)	<b>3rd FREE SERVICE COUPON</b> (300 hrs. or 10 months from Date Of Sale which ever is earlier)		Coupon No. :
Date of Service :	Model	Date Of Sale	Dealer Code
Chassis No. :	Engine No.	Date Of Service	Vendor Code
No. of working hours :	Chassis No.	Next Service Due Date	
Dlr. Stamp & Sign. :	Owner's Name:	Signature	Dealer's Seal & Signature
	Technician's Name:	Signature	

Check List For 1st Free Service				
Sr. No.	Engine	Mark	Supportive Aggregates	Mark
1	Warm up water in radiator by running the engine. Stop the engine, drain water completely. If dirty, clean radiator with fresh water, refill radiator with clean, soft water, Add radiator inhibitor (for water cooled engine).		Clean the Externals of the Mega T	
2	Clean crank case after running the engine 5 -10 minutes, clean oil screen assembly.		Adjust the Side clutch	
3	Clean air cleaner and filtering element. Change oil.		Adjust the Main clutch	
4	Grease tension pulley.		Adjust the Brake	
5	Lubricate all moving parts.		Adjust the V-belt tension	
6	Check cylinder head nuts. Tighten the nut to the recommended torque.		Adjust the Stand movement	
7	Check and tighten all nuts and bolts to the recommended torque.		Lubricate Shift lever, side clutch lever cables, throttle cables decompression cable etc.	
8	Adjust radiator fan belt to the recommended deflection (for water cooled engines).		Fill the grease in Tail wheel, bearings, rotary shaft bearings case cover etc.	
9	Clean fuel filter element, change it if necessary.		Tighten the rotary Tyne Nuts and Bolts	
10	Clean oil pressure indicator, if necessary.		Tighten the Chassis stud and bolts	
11	Adjust valve clearance as recommended.		Tighten the Rotary connecting case bolts as per torque specification	
12	Inspect electrical system.		Tighten the Wheel Nuts	



Check List For 2nd Free Service				
Sr.	Engine	Mark	Supportive Aggregates	Mark
1	Warm up water in radiator (for water cooled engine only) by running the engine, Stop the engine, drain water completely. If dirty, clean radiator with fresh water, refill radiator with clean, soft water. Add radiator inhibitor. (for water cooled engine).		Clean the Externals of the Mega T	
2	Clean crank case after running the engine 5 -10 minutes and change engine oil, clean oil screen assembly.		Adjust the Side clutch	
3	Clean air cleaner and filtering element. Change oil.		Adjust the Main clutch	
4	Grease tension pulley.		Adjust the Brake	
5	Oil to the arm shafts, cam lever, etc.		Adjust the V-belt tension	
6	Check cylinder head nuts. Tighten the nuts to the recommended torque.		Adjust the Stand movement	
7	Check and tighten all nuts and bolts to the recommended torque.		lubricate Shift lever, side clutch lever cables, throttle cables decompression cable etc.	
8	Lubricate all moving parts.		Fill the grease in Tail wheel, bearings, rotary shaft bearings case cover etc.	
9	Adjust radiator fan belt to the recommended deflection (for water cooled engines).		Tighten the rotary Tyne Nuts and Bolts	
10	Change fuel filter element.		Tighten the Chassis stud and bolts	
11	Clean oil pressure indicator, if necessary.		Tighten the Rotary connecting case bolts as per torque specification	
12	Adjust valve clearance as recommended.		Tighten the Wheel Nuts	
13	Inspect electrical system.		Drain, flush and fill Transmission case oil with recommended grade	
14	Check engine nozzle pressure and fuel injection timing.		Drain, flush and fill Rotary Chain case oil with recommended grade	
15	Set engine speed at no load.		Adjust rotary chain tension	
16	Start engine and follow.		Check and tighten all the external bolts, nuts and screws.	



Check List For 3rd Free Service				
Sr.	Engine	Mark	Supportive Aggregates	Mark
1	Warm up water in radiator (for water cooled engine only) by running the engine. Stop the engine, drain water completely. If dirty, clean radiator with fresh water, refill radiator with clean, soft water. Add radiator inhibitor (for water cooled engine).		Clean the Externals of the Mega T	
2	Clean crank case after running the engine 5 -10 minutes and change engine oil, clean oil screen assembly.		Adjust the Side clutch	
3	Clean air cleaner and filtering element. Change oil.		Adjust the Main clutch	
4	Grease tension pulley.		Adjust the Brake	
5	Oil to the arm shafts, cam lever, etc.		Adjust the V-belt tension	
6	Check cylinder head nuts. Tighten the nuts to the recommended torque.		Adjust the Stand movement	
7	Check and tighten all nuts and bolts to the recommended torque.		Lubricate Shift lever, side clutch lever cables, throttle cables decompression cable etc.	
8	Lubricate all moving parts.		Fill the grease in Tail wheel, bearings, rotary shaft bearings case cover etc.	
9	Adjust radiator fan belt to the recommended deflection (for water cooled engines).		Tighten the rotary Tyne Nuts and Bolts	
10	Check and adjust injector pressure to the recommended pressure.		Tighten the Chassis stud and bolts	
11	Check and tighten engine foundation		Tighten the Rotary connecting case bolts as per torque specification	
12	Change fuel filter element.		Tighten the Wheel Nuts	
13	Clean oil pressure indicator, if necessary.		Drain, flush and fill Transmission case oil with recommended grade	
14	Inspect electrical system.		Drain, flush and fill Rotary Chain case oil with recommended grade	
15	Adjust valve clearance as recommended.		Adjust rotary chain tension	
16	Clean fuel tank thoroughly.		check and tighten all the external bolts, nuts and screws.	
17	Check engine nozzle pressure and fuel injection timing.			
18	Set engine speed at no load.			
19	Start engine and follow.			

1st Paid Service (150 hrs. or 6 months after previous service)	<b>1st PAID SERVICE COUPON</b> (150 hrs. or 6 months after previous service)		Coupon No. :
Date of Service :	Model	Date of Sale	Dealer Code
Chassis No. :	Engine No.	Date of Service	Vendor Code
No. of working hours :	Chassis No.	Next Service Due Date	
Dlr. Stamp & Sign. :	Owner's Name:	Signature	Dealer's Seal & Signature
	Technician's Name:	Signature	



2nd Paid Service (150 hrs. or 6 months after previous service)	<b>2nd PAID SERVICE COUPON</b> (150 hrs. or 6 months after previous service)		Coupon No. :
Date of Service :	Model	Date of Sale	Dealer Code
Chassis No. :	Engine No.	Date of Service	Vendor Code
No. of working hours :	Chassis No.	Next Service Due Date	
Dlr. Stamp & Sign. :	Owner's Name:	Signature	Dealer's Seal & Signature
	Technician's Name:	Signature	



3rd Paid Service (150 hrs. or 6 months after previous service)	<b>3rd PAID SERVICE COUPON</b> (150 hrs. or 6 months after previous service)		Coupon No. :
Date of Service :	Model	Date of Sale	Dealer Code
Chassis No. :	Engine No.	Date of Service	Vendor Code
No. of working hours :	Chassis No.	Next Service Due Date	
Dlr. Stamp & Sign. :	Owner's Name:	Signature	Dealer's Seal & Signature
	Technician's Name:	Signature	

Check List For 1st Paid Service				
Sr. No.	Engine	Mark	Supportive Aggregates	Mark
1	Warm up water in radiator by running the engine. Stop the engine, drain water completely. If dirty, clean radiator with fresh water, refill radiator with clean, soft water, Add radiator inhibitor (for water cooled engine).		Clean the Externals of the Mega T	
2	Clean crank case after running the engine 5 -10 minutes, clean oil screen assembly.		Adjust the Side clutch	
3	Clean air cleaner and filtering element. Change oil.		Adjust the Main clutch	
4	Grease tension pulley.		Adjust the Brake	
5	Lubricate all moving parts.		Adjust the V-belt tension	
6	Check cylinder head nuts. Tighten the nut to the recommended torque.		Adjust the Stand movement	
7	Check and tighten all nuts and bolts to the recommended torque.		Lubricate Shift lever, side clutch lever cables, throttle cables decompression cable etc.	
8	Adjust radiator fan belt to the recommended deflection (for water cooled engines).		Fill the grease in Tail wheel, bearings, rotary shaft bearings case cover etc.	
9	Change fuel filter element.		Tighten the rotary Tyne Nuts and Bolts	
10	Clean oil pressure indicator, if necessary.		Tighten the Chassis stud and bolts	
11	Adjust valve clearance as recommended.		Tighten the Rotary connecting case bolts as per torque specification	
12	Inspect electrical system.		Tighten the Wheel Nuts	
13	Start engine and follow.			



Check List For 2nd Paid Service				
Sr.	Engine	Mark	Supportive Aggregates	Mark
1	Warm up water in radiator (for water cooled engine only) by running the engine, Stop the engine, drain water completely. If dirty, clean radiator with fresh water, refill radiator with clean, soft water. Add radiator inhibitor. (for water cooled engine).		Clean the Externals of the Mega T	
2	Clean crank case after running the engine 5 -10 minutes and change engine oil, clean oil screen assembly.		Adjust the Side clutch	
3	Clean air cleaner and filtering element. Change oil.		Adjust the Main clutch	
4	Grease tension pulley.		Adjust the Brake	
5	Oil to the arm shafts, cam lever, etc.		Adjust the V-belt tension	
6	Check cylinder head nuts. Tighten the nuts to the recommended torque.		Adjust the Stand movement	
7	Check and tighten all nuts and bolts to the recommended torque.		lubricate Shift lever, side clutch lever cables, throttle cables decompression cable etc.	
8	Lubricate all moving parts.		Fill the grease in Tail wheel, bearings, rotary shaft bearings case cover etc.	
9	Adjust radiator fan belt to the recommended deflection (for water cooled engines).		Tighten the rotary Tyne Nuts and Bolts	
10	Change fuel filter element.		Tighten the Chassis stud and bolts	
11	Clean oil pressure indicator, if necessary.		Tighten the Rotary connecting case bolts as per torque specification	
12	Adjust valve clearance as recommended.		Tighten the Wheel Nuts	
13	Inspect electrical system.		Drain, flush and fill Transmission case oil with recommended grade	
14	Check engine nozzle pressure and fuel injection timing.		Drain, flush and fill Rotary Chain case oil with recommended grade	
15	Set engine speed at no load.		Adjust rotary chain tension	
16	Start engine and follow.		Check and tighten all the external bolts, nuts and screws.	



Check List For 3rd Paid Service				
Sr.	Engine	Mark	Supportive Aggregates	Mark
1	Warm up water in radiator (for water cooled engine only) by running the engine. Stop the engine, drain water completely. If dirty, clean radiator with fresh water, refill radiator with clean, soft water. Add radiator inhibitor (for water cooled engine).		Clean the Externals of the Mega T	
2	Clean crank case after running the engine 5 -10 minutes and change engine oil, clean oil screen assembly.		Adjust the Side clutch	
3	Clean air cleaner and filtering element. Change oil.		Adjust the Main clutch	
4	Grease tension pulley.		Adjust the Brake	
5	Oil to the arm shafts, cam lever, etc.		Adjust the V-belt tension	
6	Check cylinder head nuts. Tighten the nuts to the recommended torque.		Adjust the Stand movement	
7	Check and tighten all nuts and bolts to the recommended torque.		Lubricate Shift lever, side clutch lever cables, throttle cables decompression cable etc.	
8	Lubricate all moving parts.		Fill the grease in Tail wheel, bearings, rotary shaft bearings case cover etc.	
9	Adjust radiator fan belt to the recommended deflection (for water cooled engines).		Tighten the rotary Tyne Nuts and Bolts	
10	Check and adjust injector pressure to the recommended pressure.		Tighten the Chassis stud and bolts	
11	Check and tighten engine foundation		Tighten the Rotary connecting case bolts as per torque specification	
12	Change fuel filter element.		Tighten the Wheel Nuts	
13	Clean oil pressure indicator, if necessary.		Drain, flush and fill Transmission case oil with recommended grade	
14	Inspect electrical system.		Drain, flush and fill Rotary Chain case oil with recommended grade	
15	Adjust valve clearance as recommended.		Adjust rotary chain tension	
16	Clean fuel tank thoroughly.		check and tighten all the external bolts, nuts and screws.	
17	Check engine nozzle pressure and fuel injection timing.			
18	Set engine speed at no load.			
19	Start engine and follow.			

# PDI CHECK LIST

Sr. No.: .....

PDI CHECK SHEET		
Sr. No.	Engine	Mark
1	Check Engine Oil and Top up to Recommended Level	
2	Check water level and Top up	
3	Check Fuel Tank and leakage	
4	Check air cleaner oil and Top up to the mark	
5	Check Fan belt tension and adjust, if necessary	
6	Check transmission belt tension and adjust, if necessary	
7	Check Engine foundation bolts and tight, if necessary	
8	Crank the engine several times	
9	Check oil pressure indicator mark	
10	Check exhaust condition	
11	Check abnormal sound	
12	Check vibration	
13	Check engine speed and hunting	
14	Check Head light	
15	Check for oil and water leakage	

Sr. No.	Supportive Aggregates	Mark
1	Check gear box oil and Top-up to the level	
2	Check chain case oil and Top-up the level	
3	Grease LH housing for grease & apply grease if required	
4	Lubricate all moving parts of joints and lever	
5	Check tyre pressure	
6	Check all bolts and nuts and tight, if necessary	
7	Tight wheel bolts, wheel hub nuts and axle bolts	
8	Check main clutch adjustment, side clutch adjustment, & brake adjustment	
9	Check & adjust, Main Clutch, Side clutch & engagement of gear and rotary shaft	

Model:	Engine No.:	Chassis No.:	Invoice No.:
			Invoice Date:
Dealer's Name :		Dealer Code:	Signature
Technicians Name :			Signature
Remarks if any:			Customer Signature





Sr. No.: .....

Date: .....

## MEGA T—Installation Worksheet

Dealer & Owner Details		Mega T Details	
Dealership Name & Location :		Engine No.:	
Dealer & Vendor Code:		Chassis No.:	
Invoice No.		Invoice Date:	
Installation Date:		Battery Make & Sr. No.:	
Installation Location:		Alternator Make & Sr. No.:	
Name of Customer:			
Residential Address:			
Pin Code:			
Phone No. / Mobile No:			

Functions Explained & Demonstrated (Please Put ✓ Mark In Box After Explanation & Demonstration)			
Know your Machine			
Location of Chassis No.	<input type="checkbox"/>	Location of Engine No.	<input type="checkbox"/>
Warranty Policy	<input type="checkbox"/>	Labour Free Service Intervals	<input type="checkbox"/>
Location of Starting Handle	<input type="checkbox"/>		<input type="checkbox"/>

Control Lever Location& Operation			
Location of Clutch- Brake Lever	<input type="checkbox"/>	Location of Steering Levers	<input type="checkbox"/>
Location Of Accelerator Lever	<input type="checkbox"/>	Location Of Rototiller Hi-Low Lever	<input type="checkbox"/>
Location of Rototiller Depth Adjusting Handle	<input type="checkbox"/>	Location of Hi- Low Lever	<input type="checkbox"/>
Location of Transmission Gear shift Lever	<input type="checkbox"/>	Location Of Transmission Brake Lever	<input type="checkbox"/>
Location of Decompression Lever	<input type="checkbox"/>	Location Of Speed Control Lever	<input type="checkbox"/>
Location Of ON-OFF Knob	<input type="checkbox"/>		<input type="checkbox"/>

# MEGA T - INSTALLATION WORKSHEET

Control Lever Location & Operation			
How to check Engine Oil Level. (Capacity 3.2 Ltrs , Grade SAE 15 W40).	<input type="checkbox"/>	How to check Coolant & Water Level.	<input type="checkbox"/>
How to check Transmission Oil Level (Capacity 7.5 Ltrs, Grade 80 W 90).	<input type="checkbox"/>	Recommended Air Pressure For Field (1.4 kg/cm <sup>2</sup> ).	<input type="checkbox"/>
Recommended Air Pressure For Road (2.0 kg/cm <sup>2</sup> ).	<input type="checkbox"/>	How to clean Air Filter.	<input type="checkbox"/>
How to Start & Stop the engine.	<input type="checkbox"/>	How to adjust Track Width.	<input type="checkbox"/>
Implements attachments & Operations.	<input type="checkbox"/>		<input type="checkbox"/>

Periodic Maintenance					
Parameters	Daily		Parameters	Daily	
	Before Use	After Use		Before Use	After Use
Engine Oil Check	<input type="checkbox"/>	<input type="checkbox"/>	Rotary Blade Shaft Ends	<input type="checkbox"/>	<input type="checkbox"/>
Air Cleaner Cleaning	<input type="checkbox"/>	<input type="checkbox"/>	Cam Lever	<input type="checkbox"/>	<input type="checkbox"/>
External Nuts & Bolts	<input type="checkbox"/>	<input type="checkbox"/>	Tension Pulley	<input type="checkbox"/>	<input type="checkbox"/>
Main Clutch Bearing	<input type="checkbox"/>	<input type="checkbox"/>	Joints Of All Control Lever	<input type="checkbox"/>	<input type="checkbox"/>
Blade Fitting Nuts & Bolts	<input type="checkbox"/>	<input type="checkbox"/>	Wheel Hub Bolts	<input type="checkbox"/>	<input type="checkbox"/>
Transmission V- Belt	<input type="checkbox"/>	<input type="checkbox"/>	Tyre Pressure (kg/cm.2)	<input type="checkbox"/>	<input type="checkbox"/>
Head Lights	<input type="checkbox"/>	<input type="checkbox"/>	Radiator	<input type="checkbox"/>	<input type="checkbox"/>
Radiator Fan Belt	<input type="checkbox"/>	<input type="checkbox"/>	Oil Pressure Indicator	<input type="checkbox"/>	<input type="checkbox"/>
Breather	<input type="checkbox"/>	<input type="checkbox"/>	Brake Fluid	<input type="checkbox"/>	<input type="checkbox"/>
Side Clutch Tension	<input type="checkbox"/>	<input type="checkbox"/>	Main Clutch Free Play	<input type="checkbox"/>	<input type="checkbox"/>
Parking Brake Position Adjustment	<input type="checkbox"/>	<input type="checkbox"/>			

We hereby confirm that the KMW- "MEGA T" has been installed at our premises in perfect working condition and we have received all the Tool Kit and optional accessories, Operator manual. Warranty terms and conditions explained.

Customer Comments

Customer Name & Signature

Installer Name & Signature



**KIRLOSKAR OIL ENGINES LIMITED**

A Kirloskar Group Company

13, Laxmanrao Kirloskar Road,  
Khadki, Pune, Maharashtra 411003