

ERM80 3 POINT BOOM MOWER



Operator's Manual

MechMaxx

www.mechmaxx.com

IMPORTANT SAFETY INFORMATION

SAFETY AT ALL TIMES

Thoroughly read and understand the instructions given in this manual before operation. Refer to the "Safety Decal", read all instructions noted on them.

Do not allow anyone to operate this equipment who has not fully read and comprehended this manual and who has not been properly trained in the safe operation of the equipment.

- Operator should be familiar with all functions of the unit.
- Operate implement from the driver's seat only.
- Make sure all guards and shields are in place and secured before operating the implement.
- Do not leave tractor or implement unattended with engine running.
- Dismounting from a moving tractor could cause serious injury or death.
- Do not stand between tractor and implement during hitching.
- Keep hands, feet, and clothing away from power-driven parts.
- Wear snug fitting clothing to avoid entanglement with moving parts.
- Watch out for wires, trees, etc., when raising implement. Make sure all persons are clear of working area.
- Turning tractor too tight may cause implement to ride up on wheels. This could result in injury or equipment damage.

NEVER USE THE ARMS LIKE A CRANE

LOOK FOR THE SAFETY ALERT SYMBOL

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

BE AWARE OF SIGNAL WORDS

A signal word designates a degree or level of hazard seriousness. The signal words are:

DANGER



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purpose, cannot be guarded.

WARNING



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

FOR YOU PROTECTION

- Thoroughly read and understand the “safety label” section, read all instructions noted on them.

SHUTDOWN AND STORAGE

- Lower machine to ground, put tractor in park, turn off engine, and remove the ignition key.
- Detach and store implements in a area where children normally do not play. Secure implement by using blocks and supports.

USE SAFETY LIGHTS AND DEVICES

- Slow moving tractors, self-propelled equipment, and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
- Flashing warning lights and turn signals are recommended whenever driving on public roads. Use lights and devices provided with implement.

TRANSPORT MACHINERY SAFELY

- Comply with state and local laws.
- Maximum transport speed for implement is 20 mph. Do not exceed. Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrain require a slower speed.
- Sudden braking can cause a towed load to swerve and upset. Reduce speed if towed load is not equipped with brakes.
- Use the following maximum speed - tow load weight ratios as a guideline:

20 mph when weight is less than or equal to the weight of tractor.

10 mph when weight is double the weight of tractor.

- **IMPORTANT:** Do not tow a load that is more than double the weight of tractor.

KEEP RIDERS OFF MACHINERY

- Riders obstruct of operator's view, they could be struck by foreign objects or thrown from the machine.
- Never allow children to operate equipment.

PRACTICE SAFE MAINTENANCE

- Understand procedure before doing work. Use proper tools and equipment. refer to Operator's Manual for additional information.
- Work in a clean dry area.
- Lower the implement to the ground, put tractor in park, turn off engine, and remove key before performing maintenance.
- Allow implement to cool completely.
- Do not grease or oil implement while it is operation.
- Inspect all parts. Make sure parts are in good condition and installed properly.
- Remove buildup of grease, oil or debris.
- Remove all tools and unused parts from implement before operation.

PREPARE FOR EMERGENCIES

- Be prepared if a fire starts.
- Keep a fist aid kit and fire extinguisher handy.
- Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.

WEAR PROTECTIVE EQUIPMENT

- Protective clothing and equipment should be worn.
- Wear clothing and equipment appropriate for the job. Avoid loose fitting clothing.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating equipment safely requires the full attention of the operator. Avoid wearing radio headphones while operating machinery.

AVOID HIGH PRESSURE FLUIDS HAZARD

- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Avoid the hazard by relieving pressure before disconnecting hydraulic lines.
- Use a piece of paper or cardboard, not body parts, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be treated within a few hours or gangrene may result.

SAFETY LABELS

Your Flail Mower comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels. To order new labels go to your nearest mechmaxx dealer or visit our dealer locator at AgroJonova.com.
3. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as specified by mechmaxx. When ordering new components make sure the correct safety labels are included in the request.

INTRODUCTION

Mechmaxx welcomes you to the growing family of new product owners. This implement has been designed with care and built by skilled workers using quality materials. Proper assembly, maintenance, and safe operating practices will help you get years of satisfactory use from the machine.

APPLICATION

The Flail Mowers are designed for three-point hitch or Quick-Hitch System mounting. These Flail Mowers are ideal for ripping, leveling, finish grading, and backfilling applications at feedlots, outdoor arenas, building sites, and maintenance operations on farm and ranch lanes or roadways.

USING THIS MANUAL

- This Operator's Manual is designed to help familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.
- The information contained within this manual was current at the time of printing. Some parts may change slightly to assure you of the best performance.
- To order a new Operator's or Parts Manual contact your authorized dealer. Manuals can also be printed from the mechmaxx Service & Support Center by your dealer.

TERMINOLOGY

"Right" or "Left" as used in this manual is determined by facing the direction the machine will operate while in use unless otherwise stated.

DEFINITIONS

Note : A special point of information that the operator must be aware of before continuing.

Important : A special point of information related to its preceding topic. The intention is that this information should be read and noted before continuing.

OWNER ASSISTANCE

The Warranty Registration card should be filled out by the dealer at the time of purchase. This information is necessary to provide you with quality customer service. If customer service or repair parts are required contact a dealer. A dealer has trained personnel, repair parts and equipment needed to service the machine.

The parts on your machine have been specially designed and should only be replaced with genuine parts.

SERIAL NUMBER PLATE

For prompt service always use the serial number and model number when ordering parts from your dealer. Be sure to include your serial and model numbers in correspondence also.

ASSEMBLY AND SET-UP

ASSEMBLY

Refer to the parts illustration.

TRACTOR HOOK-UP

1. Be certain that tractor draw bar will not interfere. Move draw bar ahead or remove if required. Draw bar should also be checked for clearance when unit is being raised for the first time.
2. Align lower link arms of tractor to hitch clevises on mower. Insert lower hitch pins into lower ball swivels and attach linch pins.
3. Attach tractor top link to upper floating hitch on mower with pin supplied. Secure with lock pin.
4. Adjust tractor top link in or out to place upper hitch pin vertically above or slightly behind lower hitch pins to allow mower flotation. The mower should be run with the back 15 degrees lower than the front.

DRIVELINE INSTALLATION

1. Slide driveline end with extended safety cone over splined shaft of gearbox and secure with attaching device.
2. Slide driveline over tractor's splined PTO shaft and secure with locking device of driveline.
3. Driveline should now be moved back and forth to insure that it is secure on the PTO shaft of the tractor and mower gearbox.
4. Attach chain from the driveline shield to one of the upper hitch braces to ensure that the shield does not rotate.
5. Should driveline require shortening:
 - a. Hold the half-shafts next to each other in the shortest working position and mark them.
 - b. Shorten inner and outer guard tubes equally.
 - c. Shorten inner and outer sliding profiles by the same length as the guard tubes.
 - d. Proper overlap is a minimum of one-half the length of each tube, with both tubes being of equal length.
 - e. Round off all sharp edges and remove burrs. Grease sliding profiles.



CAUTION

Tractor PTO shield and all mower guards must be in place at all times during operation!

OPERATING INSTRUCTIONS

TRANSPORTING

NOTE: Always disengage PTO before raising mower to transport position.

1. When raising the mower to transport position, be sure that driveline does not contact tractor or mower. Adjust and set the tractor's 3-point hitch lift height so that the driveline does not contact mower deck in the fully raised position.
2. Be sure to reduce tractor ground speed when turning, leaving enough clearance so that the mower does not contact obstacles such as buildings, trees or fences.
3. Select a safe ground travel speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass safely.
4. When traveling over rough or hilly terrain, shift tractor to a lower gear.

CAUTION



When traveling on public roads, whether at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. Comply with all Federal, State, and local laws.

MOWING INSTRUCTIONS

1. Clear area to be mowed of objects and debris that might be picked up and thrown by the mower blades.
2. Grass is best cut when it is dry. Mowing wet grass can cause plugging resulting in grass clumps behind the mower.
3. Grass should be mowed frequently as shorter clippings deteriorate faster.
4. If mowing extremely tall grass, it is best to raise cutting height and mow the area, then lower cutting height and mow a second time at the desired height.

OPERATING INSTRUCTIONS

Proper servicing and adjustments are the key to the long life of any machine. With careful and systematic inspection of the mower, costly maintenance, time and repair can be avoided.

Before beginning to mow, the following inspection should be performed:

1. Check oil level in gearbox.
2. Check that all plugs in gearbox have been replaced and tightened properly.
3. Be sure all mower knives, bolts and nuts are tight.
4. Be certain all guards and shields are in place and secure.
5. Grease driveline shaft and all other grease fittings.
6. Clear area to be mowed of rocks, branches and other foreign objects.
7. Lower mower to ground. Set tractor throttle at approximately 1/4 open. Engage PTO to start blades rotating.
8. Operate with 540 rpm PTO tractor.
9. At first begin mowing at a slow forward speed and shift up until the desired speed is achieved - maintaining 540 PTO rpm.
10. Mower knives will cut better at a faster blade speed than at reduced throttle.
11. After mowing the first 50 feet, stop and check to see that the mower is adjusted properly.
12. Do not make sharp turns or attempt to back up while mower is on the ground.
13. Do not engage PTO with mower in the fully raised position. Do not engage PTO at full throttle.

WIRELESS REMOTE CONTROL



ADJUSTMENTS

LEVELING THE MOWER

NOTE: Tractor and mower should be on level ground.

Leveling can be adjusted at the tractor's 3-point arms and center link.

CUTTING HEIGHT ADJUSTMENT

The machines cutting height depends upon the position of the rear roller.

1. Remove the bolts that fix the roller on both sides.
2. Lift or lower both sides of roller in equal measurements.
3. Replace bolts and re-tighten.

3-POINT HITCH ADJUSTMENTS

The 3-point hitch system on this mower has been designed for front to back flotation when mowing on uneven terrain. Adjust tractor's top center link to place the upper hitch pin vertically above or slightly behind the lower hitch pins. The mower should be run with the back 15 degrees lower than the front.

The hitch can also be adjusted from side to side by turning the adjustment handle. Turn handle until you have achieved your desired location.



CAUTION

Engage parking brake, shut off tractor, remove key and disengage PTO before making any height adjustments!

BELT TENSION



CAUTION

Belt drive system under roller tension; use care to avoid bodily harm!

The Belt tension should be checked after the first 20 hours of use. And then every 40 hours of use.

1. Tension on the belt can be adjusted with the belt tension bolt. Turn the bolt until desired tension is achieved. When the belt has the correct tension the gearbox should be adjusted so that the gearbox extension is running straight (parallel) with the flail mower. Loosen bolts at the bottom of the gearbox and move gearbox until gearbox extension is running straight.

2. Excessive tension on the belt may lead to premature failure of belt and drive components.



CAUTION

Excessive tension on the belt may lead to premature failure of belt and drive components. Excessive tension on the belt may also lead to a safety hazard to the operator or bystanders.

MAINTENANCE AND LUBRICATION

MAINTENANCE

Proper servicing and adjustment is the key to the long life of any farm implement. With careful and systematic inspection, you can avoid costly maintenance, time and repair.



CAUTION

For safety reasons, each maintenance operation must be performed with tractor PTO disengaged, mower lowered completely to ground and tractor engine shut off with ignition key removed.

- After using the mower for several hours, check all bolts to be sure they are tight and check drive belt tension.
- Replace any worn, damaged or illegible safety decals by obtaining new decals from dealer.

KNIFE REPLACEMENT

IMPORTANT: Make sure that the knife is the same length as the others on the mower. This will keep the rotor rotation balanced.

1. Remove bolt and nut.
2. Remove old knife.
3. Install new knife and existing bolt.
4. Secure with nut.

V-BELT INSTALLATION



CAUTION

Belt drive system under spring tension; use care to avoid bodily harm!

1. Remove belt guard fender and belt cover.
2. Disengage belt tension by loosening belt tension bolt until belt can be removed.
3. With tension relieved from belt remove old belt from pulleys.
4. Tighten belt tension bolt.
5. Reinstall belt guard and belt guard fender.

STORAGE

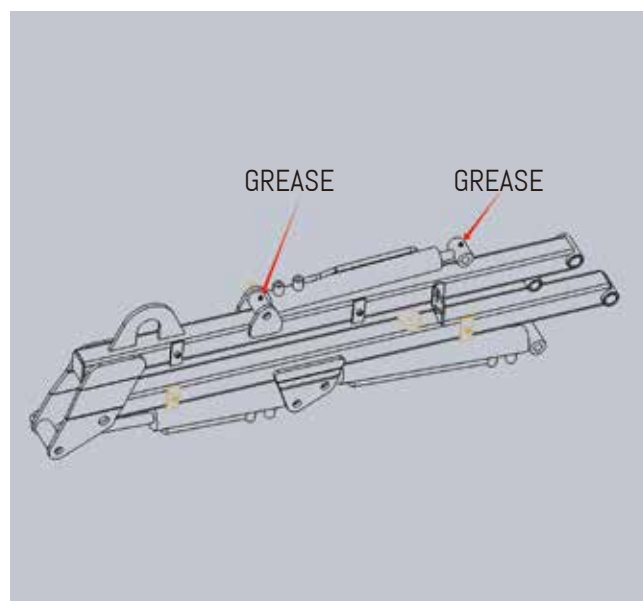
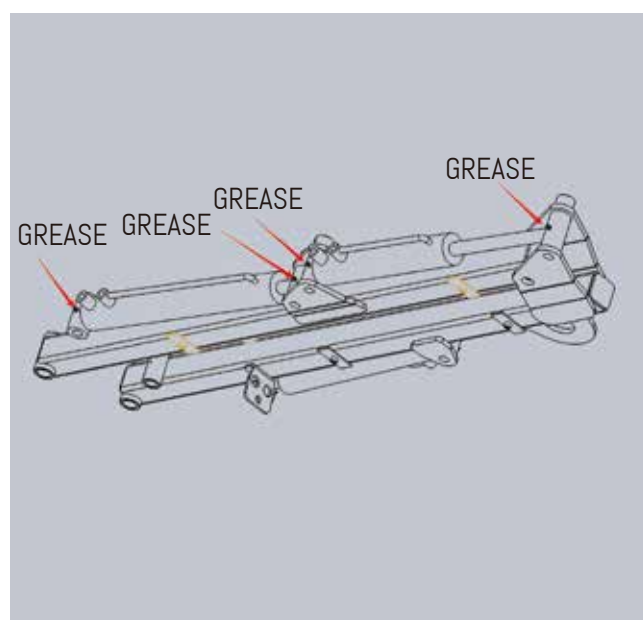
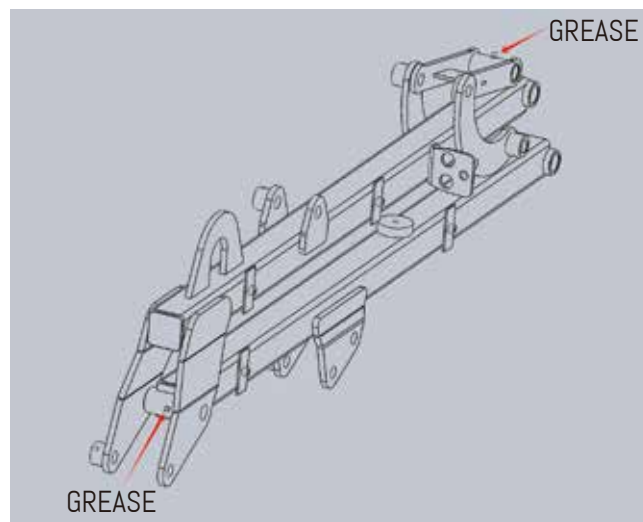
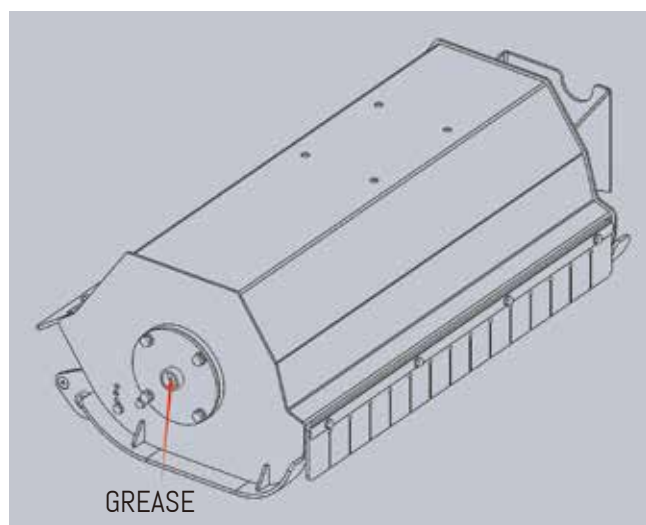
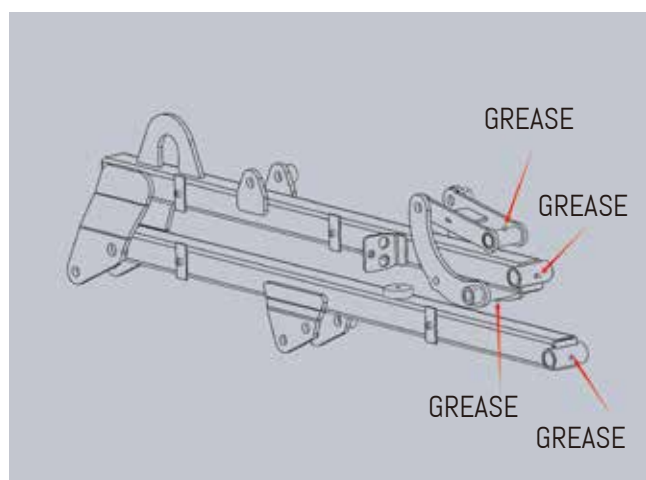
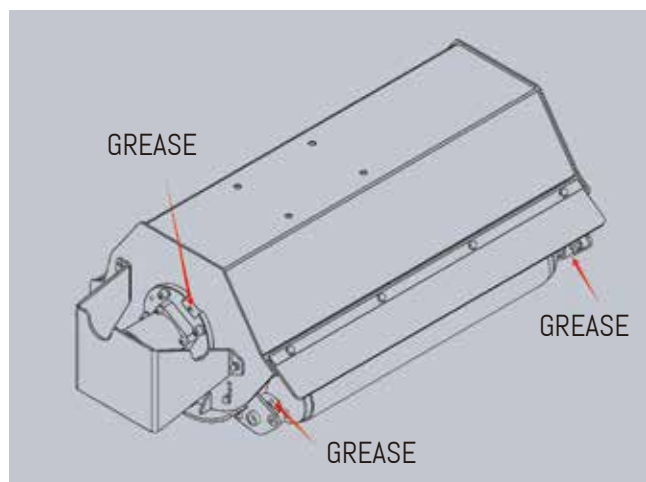
At the end of the working season or when the mower will not be used for a long period, it is good practice to clean off any dirt or grease that may have accumulated on the mower and any of moving parts.

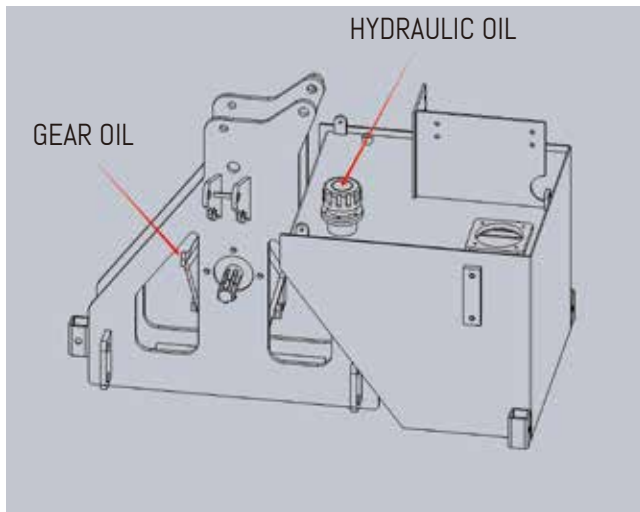
1. Clean as necessary.
2. Check knives for wear and replace if necessary.
3. Inspect mower for loose, damaged or worn parts and adjust or replace as needed.
4. Store unit inside if possible for longer life.
5. Repaint parts where paint is worn or scratched to prevent rust.
6. Replace all damaged or missing decals.

LUBRICATION



Type of Lubrication: Multi-purpose Grease

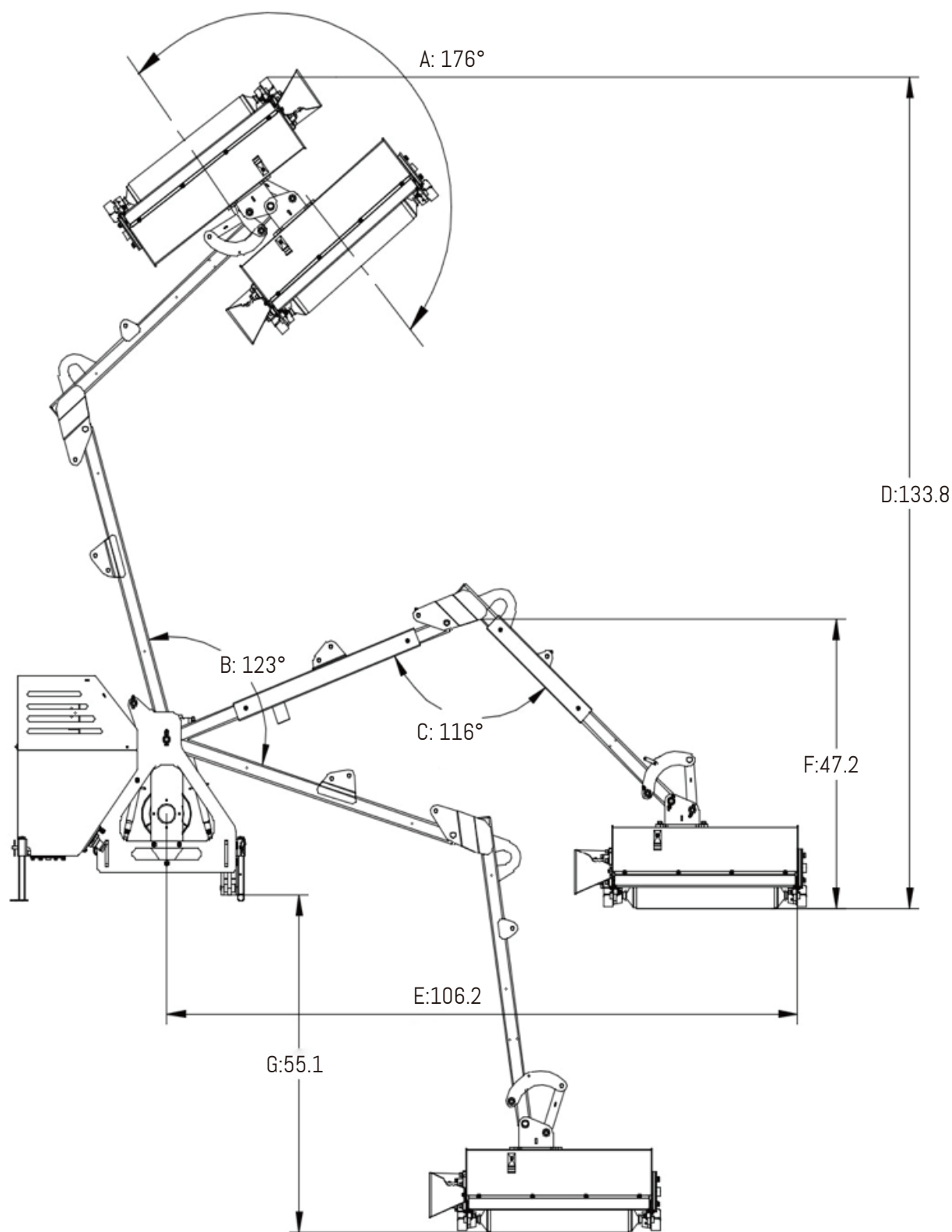




HYDRAULIC OIL

Type of Hydraulic oil: ISO VG 32; ISO VG 46; ISO VG 68

SPECIFICATIONS & CAPACITIES



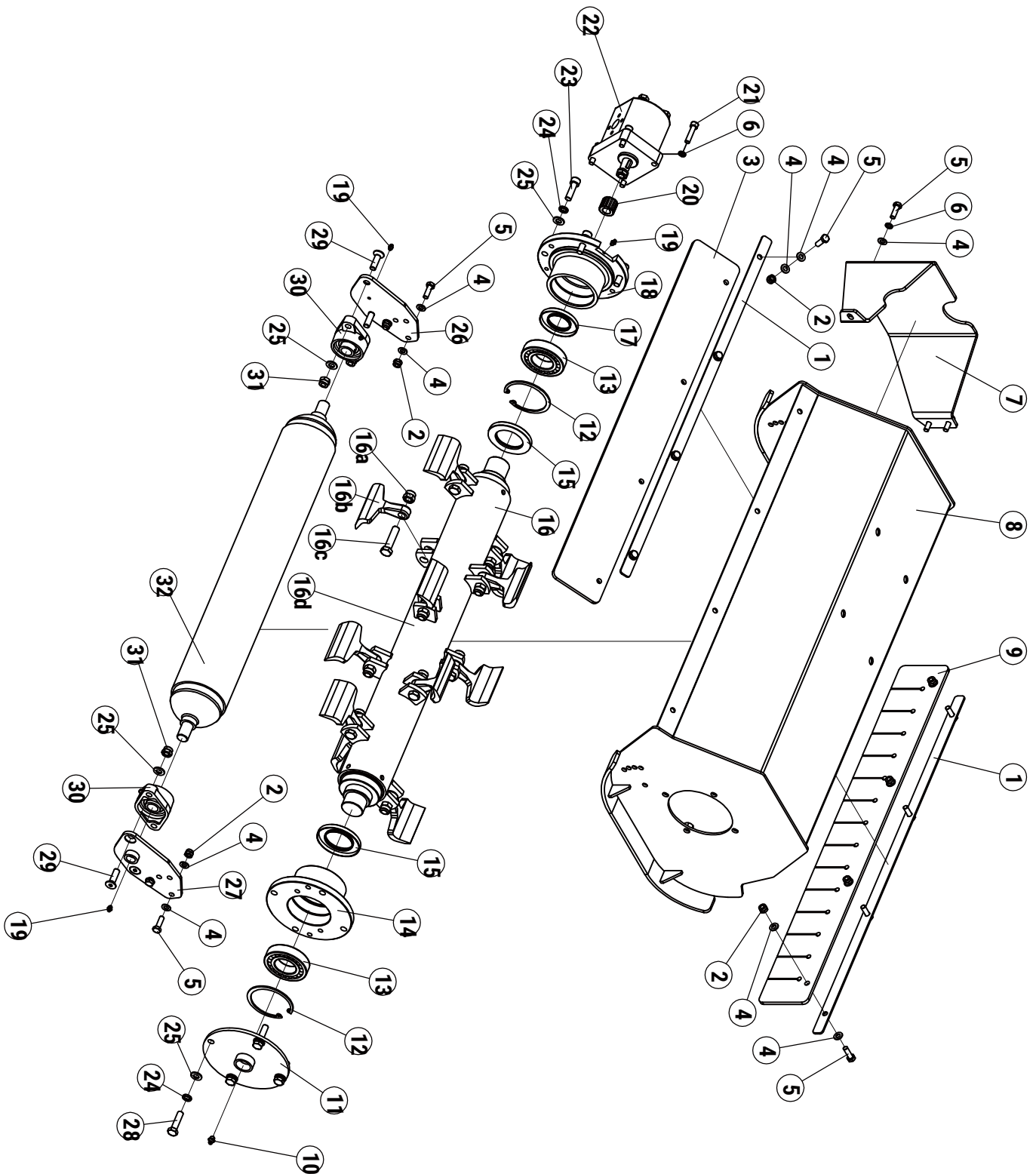
Model	ERM80
Weight	714 lbs
Work width mulch head	31.4 in
Mulch head Y hammer qty	24
Hydraulic oil flow	50L/min
Hydraulic oil flow pressure	20Mpa
Hydraulic oil tank volume	70L
Tractor power requirement	20HP
Category	Cat1
Gearbox brand	Italy CMR
Wireless Remote control The electromagnetic control valve	12V
Angle A	176°
Angle B	123°
Angle C	116°
Angle D	133.8 in
Distance E	106.2 in
Distance F	47.2 in
Distance G	55.1 in

TROUBLESHOOTING

Problem	Possible Cause	Solution
Motor for hedge cutter will not operate	Hoses improperly connected to prime mover	Connect hoses correctly to prime mover
	Hoses on prime mover are obstructed	Clear obstruction on prime mover
	Hoses on boom mower are obstructed	Clear obstruction on broom
	The motor has failed	Replace the motor
Sluggish cutting operation	Insufficient oil flow from the prime mover	Increase engine RPM
	One or more seals have failed in the motor	Replace the seals or motor
	Hydraulic filter on prime mover is dirty	Replace filter
The motor runs but the hedge cutter rotor does not turn	Motor shaft has a sheared key	Replace key
	Motor linkage to rotor is damaged	Replace the linkage. Or replace the motor.
	damage of the one of the bearings	Replace the bearing
	something is bended around the rotor	Remove cords, metal strips, ... from the rotor
	washer/spacers are missing due to the wrong position of the sprocket.	Replace the washers or replace the motor.
Oil leaks from the motor	One or more seals have failed in the motor	Replace the seals or motor
	Seals on the fittings are damaged	Replace seals or fittings
	Fittings are loose or damaged	Tighten or replace fittings
	Drain line hose not connected directly free to tank	Replace the motor
	Hydraulic hoses are loose or damaged	Tighten or replace hoses
Rotor rotates in wrong directions	Hoses installed incorrectly	Switch hose connections
The grass is not cut and is combed and flattened.	Travel speed too fast	Reduce travel speed
	Trying to cut too thick materials or diameter too big.	Avoid thick materials. Adjust to the maximum diameter of 25 mm
	Hydraulic motor is failing	Replace motor

Problem	Possible Cause	Solution
Excessive hydraulic oil temperature	Low hydraulic oil level on the prime mover	Add hydraulic fluid
	Hydraulic hoses are obstructed	Clear obstructions in hoses
	Hydraulic oil and/or filter on prime mover are dirty	Replace hydraulic oil and/or filter on prime mover
	Travel speed too fast	Reduce travel speed
	Trying to cut material too thick	Reduce the amount of material being swept. Make more passes.
	Hydraulic motor is failing	Replace motor
Hydraulic quick coupler leaks	Quick coupler poppet is unseated or damaged	Reconnect or replace the quick couplers

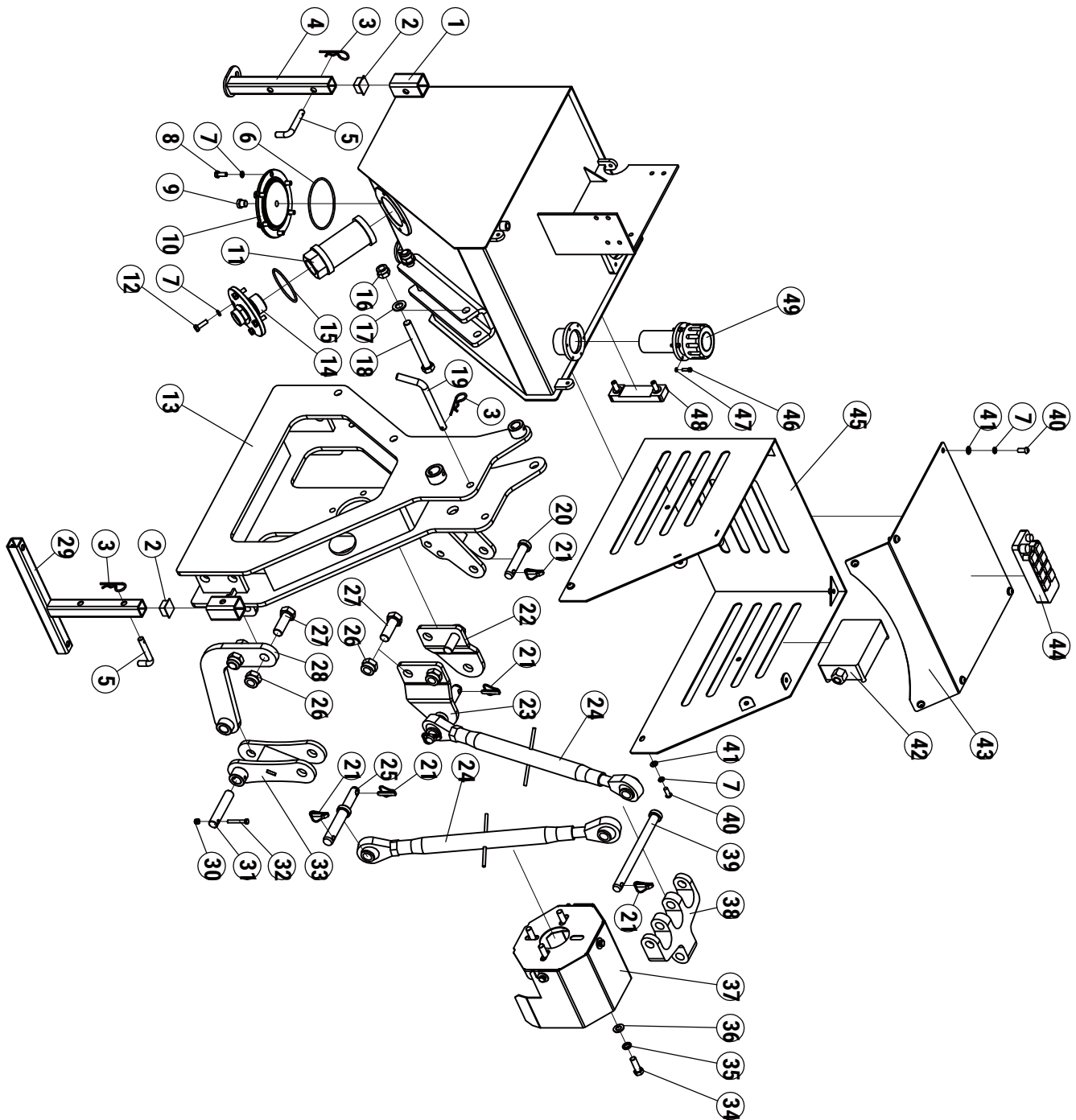
PARTS DIAGRAM



No.	DESCRIPTION	QTY
1	Rubber pressure plate	2
2	Nut M8	12
3	Rubber tailgate	1
4	Washer 8	27
5	Bolt M8*25	15
6	Washer 8	7
7	Mazda hood	1
8	Hood welding assembly	1
9	Rubber baffle	1
10	Direct-through pressure oil cup M8*1	1
11	Bearing seat cover welding assembly	1
12	Elastic retaining ring for holes 80	2
13	Self-aligning ball bearing 1208	2
14	Bearing seat 02	1
15	Oil seal FB50*80*8	2
16	Knife shaft component	1
16a	Nut M12*1.5	12
16b	Hammer	12
16c	Bolt M12 * 1.5 * 55	12
16d	Blade shaft welding assembly	1
17	Oil seal FB40 * 70 * 8	1
18	Bearing housing	1
19	Direct injection oil cup M6 * 1	3
20	Spline sleeve	1
21	Screw M8 * 35	4
22	Geared Motor	1
23	Screw M10 * 35	4
24	Washer 10	8
25	Washer 10	12
26	Welding component of left hanging plate of drum	1
27	Welding components for the right hanging plate of the drum	1
28	Bolt M10 * 40	4

No.	DESCRIPTION	QTY
29	Screw M10 * 35	4
30	Diamond shaped bearing UCFL204 (double-sided sealed)	2
31	Nut M10	4
32	Drum welding components	1

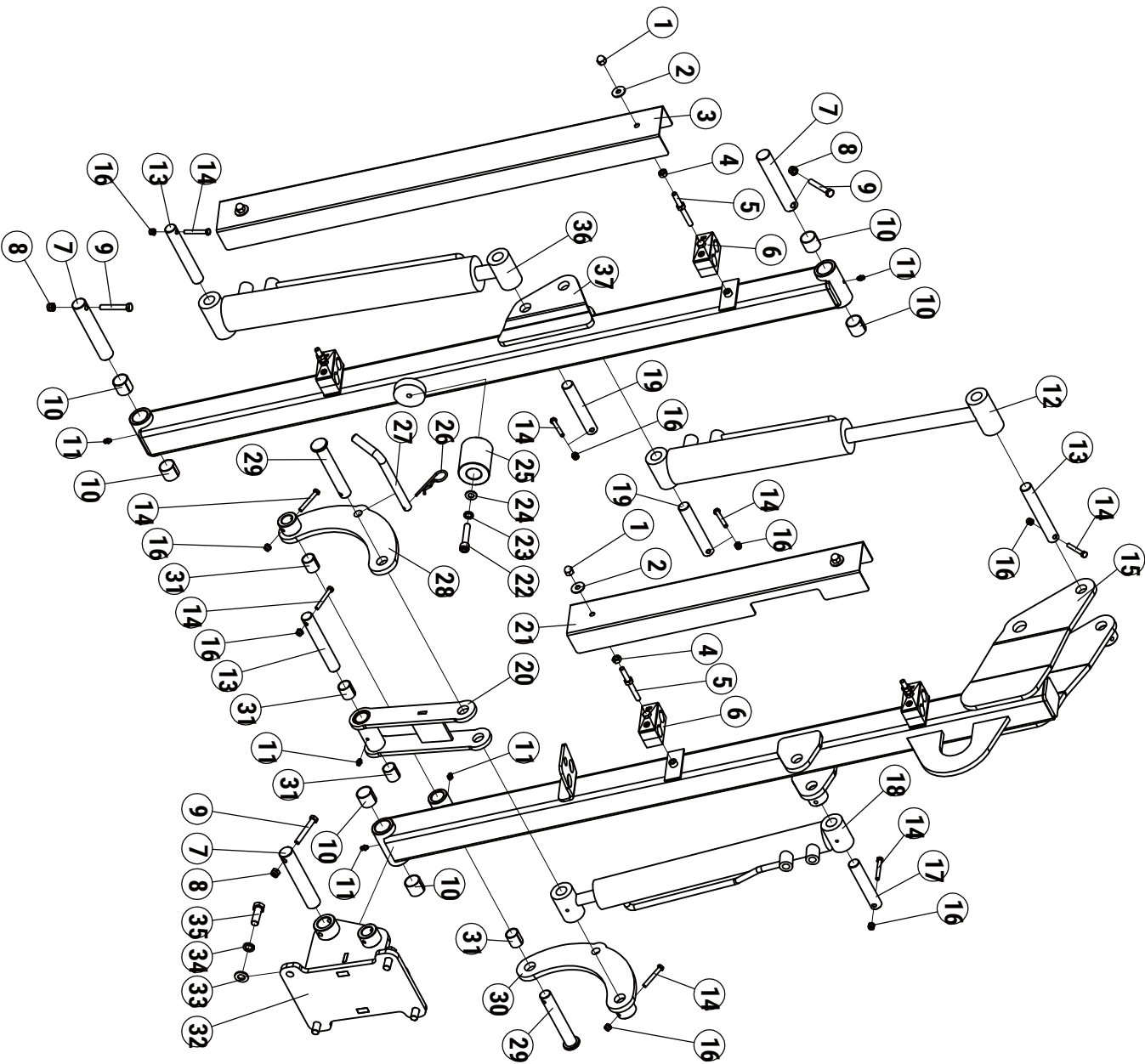
MAIN MECHANICAL PARTS 1



No.	DESCRIPTION	QTY
1	Fuel tank welding components	1
2	Square rubber cover cover cover	3
3	3.2R sales	4
4	Supporting foot welding assembly 2	2
5	Supporting foot pin	3
6	O-ring seal	1
7	Washer 8	19
8	Bolt M8 * 20	6
9	Hexagonal plug	1
10	Oil drain cap	1
11	Oil absorption filter	1
12	螺栓 M8*25	4
13	Rack welding components	1
14	Joint welding components	1
15	O-ring seal	1
16	Nut M16	2
17	Washer 16	2
18	Bolt M16 * 130	2
19	Locking pin	1
20	Upper pull rod pin shaft	1
21	Locking pin 8	6
22	Lower hanging board 2	1
23	Lower hanging board 1	1
24	Spherical connecting rod	2
25	Lower pull rod pin shaft	2
26	Nut M20	4
27	Bolt M20 * 55	4
28	Arm welding components	1
29	Supporting foot welding assembly 1	1
30	Nut M6	1
31	Pin axis 7	1
32	Bolt M6 * 45	1

No.	DESCRIPTION	QTY
33	Hanging ear welding components	1
34	Bolt M12 * 35	4
35	Washer 12	4
36	Washer 12	4
37	Transmission shaft cover assembly	1
38	Join the fork	1
39	Upper pull rod pin shaft	1
40	Screw M8 * 20	9
41	Washer 8	9
42	Remote control receiver	1
43	Cover plate	1
44	Remote control transmitter	1
45	Fuel tank cover welding assembly	1
46	Screw M5 * 16	6
47	Washer 5	6
48	Liquid level gauge	1
49	Pre pressure air filter	1

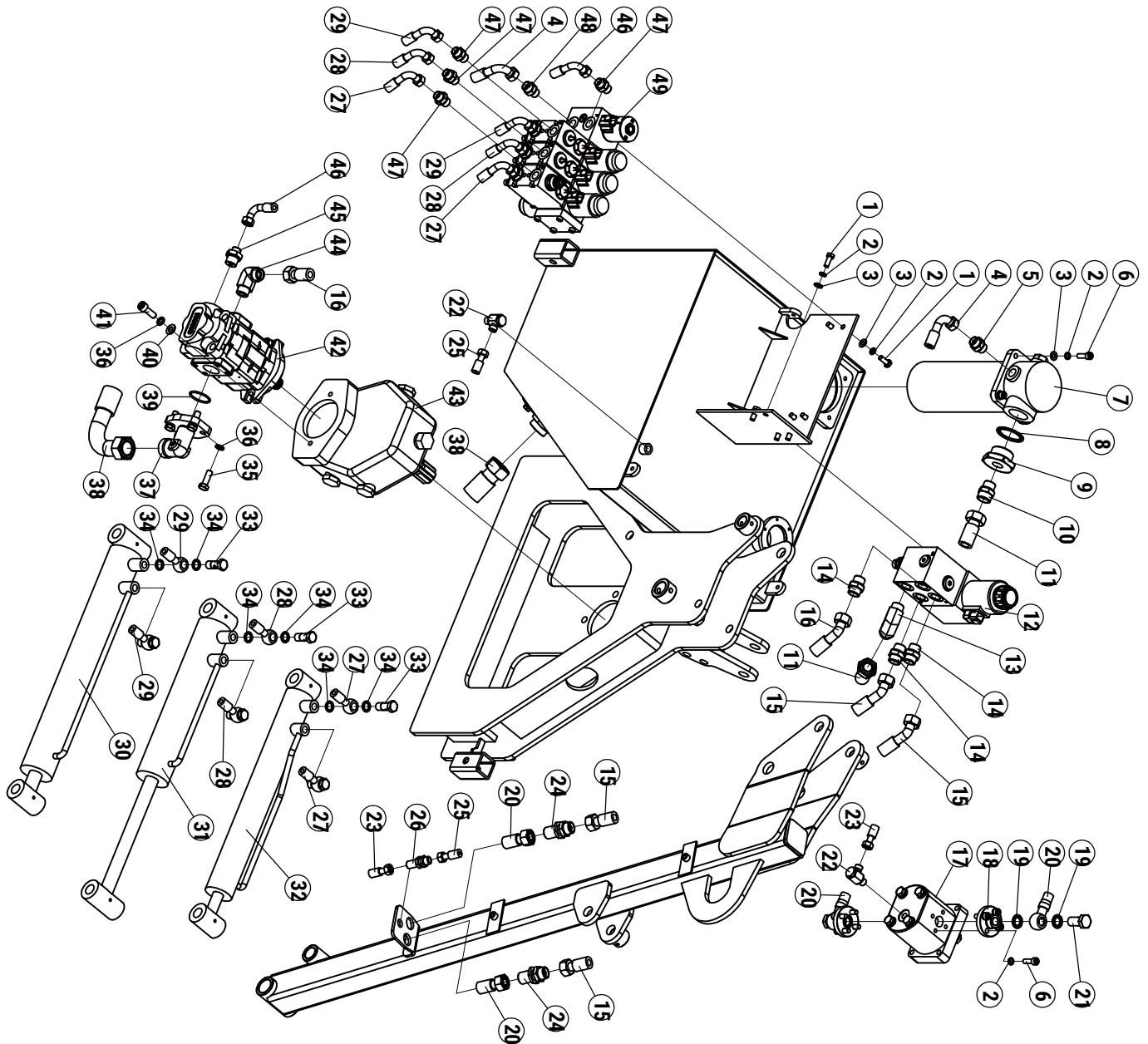
MAIN MECHANICAL PARTS 2



No.	DESCRIPTION	QTY
1	Nut M8	4
2	Washer 8	4
3	Big arm cover	1
4	Nut M8	4
5	Threaded rod	4
6	Double pipe clamp seat ϕ 22	4
7	Pin axis 2	3
8	Nut M8	3
9	Bolt M8 * 55	3
10	Lining SF-2- ϕ 28* ϕ 25*25	6
11	Direct injection oil cup M6 * 1	5
12	Small arm oil cylinder	1
13	Pin axis 1	3
14	Bolt M6 * 45	8
15	Small arm welding components	1
16	Nut M6	8
17	Pin axis 4	1
18	Implement oil cylinder	1
19	Pin axis 3	2
20	Push pull welded components	1
21	Forearm cover	1
22	Screw M10 * 50	1
23	Washer 10	1
24	Washer 10	1
25	Stop block	1
26	3.2R sales	1
27	Locking pin	1
28	Arm plate welding assembly 1	1
29	Pin axis 5	2
30	Arm plate welding assembly 2	1
31	Lining SF-2- ϕ 23* ϕ 20*25	4
32	Hitch frame welding assembly	1

No.	DESCRIPTION	QTY
33	Washer 12	4
34	Washer 12	4
35	Bolt M12 * 35	4
36	Boom cylinder	1
37	Arm welding components	1

HYDRAULIC LINDE AND DRAIN LINE HOSES



No.	DESCRIPTION	QTY
1	Bolt M8*20	8
2	Washer 8	20
3	Washer 8	12
4	Oil pipe 5	1
5	Straight connector M18X1.5-M18X1.5	1
6	Screw M8 * 25	12
7	Return oil filter	1
8	Combination gasket 42	1
9	Joint welding components	1
10	Straight connector M22X1.5-M26X1.5	1
11	Oil pipe 4	1
12	Motor control valve group	1
13	Bending adjustable joint G1/2-M26X1.5	1
14	Straight connector G 1/2-M22 * 1.5	3
15	Oil pipe 6	2
16	Oil pipe 2	1
17	Geared Motor	1
18	Joint	2
19	Combination washer 16	4
20	Oil pipe 15	2
21	Articulation bolt M16X1.5X45	2
22	High voltage articulated joint G1/4-M14 * 1.5	2
23	Oil pipe 17	1
24	Direct partition type connector M22X1.5	2
25	Oil pipe 10	1
26	Direct partition type connector M14X1.5	1
27	Oil pipe 8	2
28	Oil pipe 11	2
29	Oil pipe 13	2
30	Boom cylinder	1
31	Small arm oil cylinder	1
32	Implement oil cylinder	1

No.	DESCRIPTION	QTY
33	Articulated bolt M14 × 1.5 × 35 for pipe joint	6
34	Combination washer 14	12
35	Bolt M10 * 1.25 * 30	4
36	Washer 10	6
37	Flange welded parts	1
38	Oil pipe 1	1
39	O-ring seal	1
40	Washer 10	2
41	Screw M10 * 30	2
42	Dual gear pump	1
43	Gearbox	1
44	Bent adjustable directional connector G1/2-M22X1.5	1
45	Straight connector G 1/2-M16 * 1.5	1
46	Oil pipe 3	1
47	Straight connector G 3/8-M16 * 1.5	7
48	Straight connector G 3/8-M18 * 1.5	1
49	Three piece control valve group	1

MechMaxx

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