TO OUR CUSTOMER

Thank you very much for purchasing an ISEKI tractor.

This operator's manual provides the information necessary for operating and maintaining your tractor safely and properly. The contents are mainly composed of the following two items:

Safety instructions: Essential items which you should observe while operating the tractor.

Technical instructions: Items which are necessary to operate, adjust, and service the tractor properly.

Before starting to operate the machine for the first time, you should read this operation manual thoroughly and carefully until you are sufficiently familiar with the operation of the machine to do jobs safely and properly. The manual should be kept in a handy place so you can refer to it when required. You are advised to refer to it from time to time to refresh your understanding of the machine.

Your dealer has performed the pre-delivery service on your new machine. He will discuss with you the operating and maintenance instructions given in this manual, and instruct you in the proper and varied applications of this machine. Call on him at any time when you have a question, or need equipment related to the use of your machine.

Paragraphs in the manual and labels on the machine which are accompanied by a caution particularly important information about safe operation to avoid accidents. You should always keep precautions in mind and follow them during operation.

Be sure to wear personnel protective equipment during operation

In some of the illustrations used in this operation manual, panels or guards may have been removed for clarity. Never operate the tractor with these panels and guards removed.
If the removal of a shield is necessary to make a repair, it must be replaced before operation.

All information, illustrations, and specifications contained in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.
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SAFETY

PERSONAL SAFETY INSTRUCTIONS

Whenever you see the words and symbols below, used in this Operator's Instruction Book and on decals, you MUST take note of their instructions as they relate to personal safety.

DANGER: This symbol together with the word DANGER indicates an imminently hazardous situation that, if not avoided, will result in DEATH OR VERY SERIOUS INJURY.

WARNING: This symbol together with the word WARNING indicates a potentially hazardous situation that, if not avoided, could result in DEATH OR VERY SERIOUS INJURY.

CAUTION: This symbol together with the word CAUTION is used to indicate a potentially hazardous situation that, if not avoided, may result in MINOR INJURY.

IMPORTANT: The word IMPORTANT is used to identify special instruction or procedures which, if not strictly observed, could result in damage to, or destruction of the machine, process or its surrounding.

NOTE: The word NOTE is used to indicate points of particular interest for more efficient and convenient repair or operation.

Understand thoroughly the following precautions, always keep them in mind before, during, and after operation, and never take chances.

MAKING YOUR TRACTOR A SAFE VEHICLE

HOW TO MAINTAIN SAFETY

(1) Never attempt to do the following: Modification of the structure of the tractor Installation of other type engine Installation of tires of other than the original tire size.

Any malfunctions or failures of the tractor due to unauthorized modification are not covered by the warranty.
(2) This machine cannot be driven on a public road without authorization by a local government agency, etc.

When transporting an unauthorized machine on a public road, load it on a truck.

When traveling with an implement wider than the tractor, put red caution markers such as flags (red lamps at night) in the most visible locations on both sides of the implements, and place a "SLOW MOVING VEHICLE" sign in a place a where it is easily seen by other drivers. Operate the machine carefully keeping in mind that the implement is wider and may roll easily. If the implement can be folded, fold it beforehand. If there are road or railway crossings where the visibility is poor, you should install on the machine a mirror to give a view ahead of you so that you need not move your machine too far into the intersection.

(3) When you travel on a road, you must turn work lights off if the law requires it.
<table>
<thead>
<tr>
<th>Implement</th>
<th>Items</th>
<th>TM3215F</th>
<th>TM3245F</th>
<th>TM3265F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotary mower</td>
<td>Mid-mount</td>
<td>Max. cutting width</td>
<td>1220 mm</td>
<td>1220 mm</td>
</tr>
<tr>
<td></td>
<td>(2, 3 blades)</td>
<td>Max. weight</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
<tr>
<td></td>
<td>Rear-mount</td>
<td>Max. cutting width</td>
<td>1,070 mm</td>
<td>1,070 mm</td>
</tr>
<tr>
<td></td>
<td>(1 blade)</td>
<td>Max. weight</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
<tr>
<td></td>
<td>(2, 3 blades)</td>
<td>Max. weight</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
<tr>
<td>Rotary tiller</td>
<td></td>
<td>Max. tilling width</td>
<td>1,070 mm</td>
<td>1,070 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
<tr>
<td>Bottom plough</td>
<td></td>
<td>Max. size</td>
<td>360 mm x 1</td>
<td>360 mm x 1</td>
</tr>
<tr>
<td>Disk plough</td>
<td></td>
<td>Max. size</td>
<td>560 mm x 1</td>
<td>560 mm x 1</td>
</tr>
<tr>
<td>Cultivator</td>
<td></td>
<td>Max. size</td>
<td>1,370 mm</td>
<td>1,370 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
<tr>
<td>Disk harrow</td>
<td></td>
<td>Max. harrowing width</td>
<td>1,400 mm</td>
<td>1,400 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
<tr>
<td>Sprayer</td>
<td></td>
<td>Max. tank capacity</td>
<td>120 litres</td>
<td>120 litres</td>
</tr>
<tr>
<td>Broad caster</td>
<td></td>
<td>Max. tank capacity</td>
<td>120 litres</td>
<td>120 litres</td>
</tr>
<tr>
<td>Sand spreader</td>
<td></td>
<td>Max. tank capacity</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Front blade sub-frame</td>
<td></td>
<td>Max. cutting width</td>
<td>1,250 mm</td>
<td>1,250 mm</td>
</tr>
<tr>
<td>Rear blade</td>
<td></td>
<td>Max. cutting width</td>
<td>1,200 mm</td>
<td>1,200 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
<tr>
<td>Box blade</td>
<td></td>
<td>Max. cutting width</td>
<td>1,070 mm</td>
<td>1,070 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
<tr>
<td>Snow blower with sub-frame</td>
<td></td>
<td>Max. cutting width</td>
<td>1,220 mm</td>
<td>1,220 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. weight</td>
<td>130 kg</td>
<td>130 kg</td>
</tr>
<tr>
<td>Trailer</td>
<td>without brake</td>
<td>Max. load capacity</td>
<td>300 kg</td>
<td>300 kg</td>
</tr>
<tr>
<td>3-point lift</td>
<td>Front</td>
<td>Max. load capacity</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
<tr>
<td></td>
<td>Rear</td>
<td>Max. load capacity</td>
<td>540 kg</td>
<td>540 kg</td>
</tr>
<tr>
<td>Weight</td>
<td>Front wheel</td>
<td>Max. load capacity</td>
<td>0 kg</td>
<td>0 kg</td>
</tr>
<tr>
<td></td>
<td>Rear wheel</td>
<td>Max. load capacity</td>
<td>80 kg</td>
<td>80 kg</td>
</tr>
<tr>
<td></td>
<td>Bumper</td>
<td>Max. load capacity</td>
<td>90 kg (6 weights)</td>
<td>90 kg (6 weights)</td>
</tr>
<tr>
<td>Cabin</td>
<td></td>
<td>Max. weight</td>
<td>150 kg</td>
<td>150 kg</td>
</tr>
</tbody>
</table>
FOR SAFE OPERATION

■ HOW TO BE A SAFE OPERATOR

(1) Familiarize yourself fully with machine controls by studying the operation manual before using your machine.

(2) Never allow persons listed below to operate the machine.

- Persons with mental disease
- Persons who cannot operate the machine properly because of fatigue, illness, or drowsiness from medication, etc.
- Pregnant women
- Young persons or children too young to legally operate the machine

Always be careful of your health by taking suitable rest breaks.

(3) Wear appropriate clothing and other protective devices during operation.

- Protection of your head
  Wear protective headgear such as a helmet, especially when travelling on roads or handling material above your head.

- Protection to avoid being caught in the machine
  Wear tightfitting clothing and headgear, because loose clothing or hair can get caught in moving parts of machine.

- Protection from poisonous dust or gases
  Be sure to wear a protective device to protect the respiratory system, eyes, and skin when handling poisonous chemicals.

- Protection of the ears
  Wear ear plugs or take suitable countermeasures to protect your ears when you must operate the machine under extremely noisy conditions.

- Maintenance of protective devices
  Periodically inspect protective devices to assure that they are functioning properly. Use them at all times.
■ WHEN ANOTHER PERSON OPERATES YOUR MACHINE

When another person operates your machine, you must explain how to operate and instruct him or her to read this manual fully to avoid unexpected accidents.

■ BEFORE OPERATION

(1) Set up an operation plan with sufficient time allowance. A tight plan may result in unexpected accidents in hurry when work has to be rushed.

(2) Inspect and service the machine periodically in accordance with the instructions given in the operation manual to maintain the machine in best condition. Pay special attention to the controls, especially to the brakes and clutch, and safety measures for the machine when servicing it. If the machine functions properly and performs normally, the chance of an accident will be reduced greatly. If safety devices are damaged or do not work, please consult your ISEKI dealer.

(3) Before removing a safety device, such as a safety cover, be sure that the machine has stopped completely. Never forget to replace the removed part after servicing.

(4) Never inject fuel while the engine is running or is still hot. Keep away from open fires and never smoke around a fuel tank or while fuelling the machine. Never use open flames for illumination when fuelling the machine at night.
■ STARTING ENGINE AND MOVING TRACTOR

(1) Before starting the engine indoors, make sure that there is proper ventilation because exhaust fumes contain poisonous carbon monoxide, which cause lethal poisoning.

(2) Before starting the machine, confirm that the transmission gear has been shifted to the appropriate speed, that there is no one near the machine, and that the implement is securely installed on the machine. Always operate the machine from the operator's seat. Never leave the seat except in an emergency when operating the machine.

(3) Before starting to move, pay attention to safety conditions around the machine to avoid injury to bystanders or damage to property. Never move abruptly.

■ WHEN TRAVELLING

(1) When you travel on roads, latch the brake pedals together by using the interlocking plate, or the tractor may turn over by one wheel locking. (Mechanical transmission)

(2) When you travel on roads, ensure the differential lock is off, or the tractor may turn over.

(3) Do not make sharp turns when operating at high speed or for transportation, as the tractor may turn over.

(4) When operating on poor footing such as a rough road, a slope, a road along a ditch or river, or undeveloped land, drive the tractor at low speeds and operate it carefully.

(5) Do not make sharp turns on a slope. It may cause turnover of the tractor. When climbing up a hill, shift the speed change lever to the most suitable speed. Start moving the tractor as slowly as possible. While climbing up a hill, never shift speeds along the way.
When starting to move the tractor on an up-hill slope, be sure that the front wheels do not lift up. When going down a hill, drive the tractor at a slower speed than used to climb up the hill. While going down a hill, never disengage the clutch or shift into neutral, and never try to control the speed only with the brakes; use the engine brake effectively.

(6) When travelling on a road where one or both shoulders are slanted and which run along a ditch, look out for softened shoulders especially when the ditch is full of water and be careful not to let the machine slip sideways.

(7) Never allow other persons to get on the machine or the implement except when the machine or the implement is provided with a seat or a platform for persons to sit or stand on, and only within the capacity specified. Never allow persons to get on the implement while travelling on roads.

(8) When parking the tractor, you have to park it on hard, level ground and provide sufficient safety measures by grounding the implement, removing the key, applying the parking brakes, and chocking the wheels securely.

(9) Keep inflammables away from the engine during operation. Especially during stationary operation do not operate the engine at high speed so as not to set fire to grass or straw with a heated exhaust pipe or exhaust fumes.

(10) When you have to operate the tractor at night, make sure of location of controls. If not, the tractor might work unexpectedly by mistake. When travelling on roads, never turn on the work lamps (option).
■ LOADING ONTO OR UNLOADING FROM A TRUCK

(1) When loading the tractor onto a truck or a trailer, turn off the truck’s engine and apply the parking brakes to the truck or the trailer. Otherwise, the truck could move and the tractor fall to the ground.

(2) Pay sufficient attention to the safety conditions around the tractor and have it guided by someone to assist the operation. Never allow other persons to approach the tractor, especially in front of or behind it.

(3) When loading or unloading the machine on / off a track, set slipproof ramps at the same angles and drive the tractor straight at sufficiently slow speeds. Loading the tractor in reverse travel and unloading it in forward travel.

(4) Be sure to interlock the right and left brake pedals ahead of time. Never depress the brake pedals or clutch pedal during loading or unloading operation, or the tractor may shift sideways, which may cause it to fall off the ramps.

(5) If the engine stalls unexpectedly on the ramps, depress the brake pedals immediately and roll the tractor to the ground by manipulating the brake pedals. Start the engine on the ground and try again.

(6) When the machine is loaded on the truck, stop the engine, apply parking brakes, and withdraw the starter key, chock the wheels, and rope it securely to the truck. During transportation, do not make sharp turns needlessly so as not to shift the loaded tractor.

(7) Use ramps with the same or better specifications mentioned below. When the machine is equipped with attachments other than those included in the specifications mentioned below, ask your ISEKI dealer for advice.
Specifications of the ramps
- Length more than 4 times the height of the platform of the truck
- Width (effective width) more than 35 cm
- Capacity (one ramp) more than 1000 kg
- Ramps should have anti-skid surfaces

(8) Hook the ramps securely on the platform of the truck with the top of the ramp level with the platform.

(9) Always prepare for even the worst, never allowing other persons near the tractor.

(10) Drive the tractor carefully at the moment the tractor moves from the ramps onto the platform, for it changes angle abruptly.

■ DURING OPERATION

(1) During operation, never allow other persons in the vicinity of the tractor, because the tractor itself or flung pieces may cause injury.

(2) Pay attention to safety around the tractor to avoid injury to bystanders or damage to property. Especially when operating with other persons, use the horn to warn them.

(3) When crossing a ditch or a levee or when passing through soft land, drive the tractor slowly and straightforward so that it does not slip or turn over.

(4) Do not touch dangerous parts such as rotating parts, moving parts, hot parts (muffler, radiator, or engine, etc.), or electric parts (battery terminals and other live parts), or you may be injured seriously.

(5) If you use a trailer, use a proper one which starts your tractor. Using an improper trailer may cause serious accidents. Never attempt to haul beyond the tractor's capacity. If you have a question, please consult your ISEKI dealer.
(6) When moving the machine toward an implement for the purpose of installing the implement, never allow any one to stand in between. When installing the implement on the machine, be prepared to move away promptly in the event of an emergency. The brakes should be applied securely during installation.

■ INSPECTION AND MAINTENANCE

(1) When servicing the tractor or mounting or dismounting an implement, place the tractor on level, hard ground which is sufficiently illuminated, or unexpected accidents may occur.

(2) When servicing the tractor, follow the instructions listed below:
   • Apply parking brakes.
   • Disengage all PTO.
   • Place all gear shift levers in neutral.
   • Remove the starter key.
   • Lower the implement fully, if equipped. If not, your hands or clothes may be caught or sandwiched between.

(3) When servicing the tractor, use proper tools. Using makeshift tools may lead to injuries or poor service, which may result in unexpected accidents during operation.

(4) The engine, muffler, radiator, etc. are very hot just after operation, so wait until they cool down sufficiently to avoid burns.

(5) Never remove the radiator cap while the engine is hot or running. Wait until the engine cools down and then relieve the radiator pressure by releasing the radiator cap. Carelessly pouring cooling water into the heated radiator can cause serious damage to the radiator and the engine. Careless removal of the radiator cap can cause serious injury because of overheated water vapour.

(6) Never fit unauthorized implements or attempt unauthorized modification.
(7) Be sure to reinstall the removed safety covers in place as exposed dangerous parts may cause serious injury.

(8) Avoid high-pressure fluids. Escaping fluid under pressure can penetrate the skin and cause serious injury, so keep hands and body away from pin holes and nozzles ejecting such fluids. Be sure to consult your dealer about the hydraulic and fuel injection system trouble. When checking for leaks, use a piece of cardboard or wood without fail. If any hydraulic fluid is injected accidentally into the skin, it must be removed within a few hours by a doctor familiar with this type of injury.

(9) When servicing wheels and tyres, the tractor and / or implement must be supported on suitable blocks or stands. Not a hydraulic jack. Do not attempt to service a tyre unless you have the proper equipment and experience to perform the job. Have the work carried out by your ISEKI dealer or a qualified repair service. When seating tyre beads onto rims never exceed the maximum inflation specifications specified on the tyre. Inflation beyond this maximum pressure may brake the bead, or even the rim, with dangerous, explosive force. If tyres have deep scratches, cuts or punctures, the respective tyre should be repaired or replaced by qualified personnel as soon as possible. Wear suitable protective clothing, gloves, eye / face protection.

■ STORAGE

(1) Never cover a hot machine just after operation with a tarpaulin or the like, or the heated engine and related parts may cause a fire.

(2) Before storing the tractor for a long period of time, disconnect the battery cables to prevent them, in case they are gnawed by rats, from causing a short circuit, which may lead to a fire. When disconnecting the cables, disconnect the negative (-) cable first.
(3) Safe storage of dangerous objects
・ When storing dangerous implements, take appropriate safety measures to prevent accidents by covering with tarpaulin.
・ Store fuel in a safe place with caution signs such as "PREVENT FIRE" or "INFLAMMABLE."
・ All inflammables must also be stored in a safe, fire-resistant location.

MAINTENANCE OF THE ELECTRIC SYSTEM

■ TO MAINTAIN ELECTRIC WIRING

(1) When servicing the electric wiring, stop the engine without fail. Otherwise your hands or clothes may be caught in or sandwiched between rotating parts.

(2) Before manipulating electric parts, be sure to disconnect the earth battery cable (-), or you may get an electric shock or be injured by sparks.

(3) Loose electric terminals or connectors may not only lower electrical performance but also cause short circuit or leakage of electricity, which may lead to a fire. Promptly repair or replace damaged wiring.

(4) Remove chaff or dust from the battery, wiring, muffler, or engine. Otherwise it could result a fire.

■ TO HANDLE THE BATTERY

(1) When working around the battery, avoid smoking. The battery generates explosive hydrogen and oxygen gases when it is being charged. Keep the battery away from sparks or open flames.

(2) The battery should be inspected before starting the engine. Be careful not to touch the electrolyte when removing the vent plugs. If the battery electrolyte makes contact with the skin or clothing, wash it off immediately with water and then consult a doctor.
(3) When replacing or inspecting the battery, stop the engine and turn the main switch off, or electrical parts may be damaged or unexpected accident may occur.

(4) When disconnecting the battery cables, disconnect the earth cable (−) first without fail. When connecting the battery cables, connect the positive cable (+) first. Disconnecting or connecting in wrong order may lead to a short circuit or sparks.

■ TO HANDLE BOOSTER CABLES

When using booster cables, pay attention to the following items for safe operation:

(1) Before connecting cables, remove the vent plugs. This will lower the force in case of explosion.

(2) Before connecting cables, be sure to stop the engine. Otherwise unexpected accidents may occur.

(3) Use booster cables with sufficient electrical capacity. A cable of inadequate capacity will cause generation of heat, which may lead to a fire.

■ SAFETY DECALS

The labels are stuck on the tractor. You should of course read the safety instructions in the manual. But never fail to read the labels on the machine as well.

・The labels should always be clearly seen, that is, nothing should obscure them.
・When they have become dirty, wash them with soapy water and wipe off with soft cloth.
・If any of them are torn or lost, order new labels from your dealer. Their codes are mentioned in "SAFETY DECALS AND THEIR LOCATION."
・A new label should be placed in the same place where the old one was located.
・When sticking on a new label, clean the place to enable the label to stick and squeeze out all air bubbles trapped under it.
SAFETY DECALS AND THEIR LOCATIONS

(1) Fan warning label
(Code No. 1705-902-006-0)

![Fan warning label]

**WARNING: RISK OF ENTANGLEMENT**
Stay clear of the fan while it is running.

(2) Battery disconnecting label
(Code No. 1636-901-022-0)

![Battery disconnecting label]

**WARNING: RISK OF ELECTRIC SHOCK**
When disconnecting the battery, detach the negative terminal first and attach the positive terminal first when connecting the battery.

(3) Belt warning label
(Code No. 1674-904-008-0)

![Belt warning label]

**WARNING: RISK OF ENTANGLEMENT**
Stay clear of the belt while it is running.

(4) Hot part warning label
(Code No. 1739-904-001-0)

![Hot part warning label]

**WARNING: HOT SURFACES, RISK OF BURNS ON HANDS AND FINGERS**
Stay clear of the heated parts until they cool down sufficiently.

(5) Ether label
(Code No. 1674-904-002-1)

![Ether label]

**WARNING: RISK OF EXPLOSION**
Ether or other starting fluid should never be used to start engines equipped with glow plugs.

(6) PTO label
(Code No. 8654-901-002-0)

![PTO label]

**WARNING: RISK OF ENTANGLEMENT**
Stay clear of the PTO shaft while the engine is running.

(7) Trailer label
(Code No. 1674-904-004-0)

![Trailer label]

**WARNING: RISK OF OVERHEATING**
The rear implement should be installed on the tractor with an approved drawbar or by using the lower links of the three point hitch. Use only weight not exceeding the designed capability of the tractor.
(8) Radiator label
(Code No. 1705-902-008-0)

WARNING: HIGH PRESSURE STEAM AND HOT WATER
Never remove the radiator cap during or just after operation. The water in the radiator is very hot and highly pressurized, which could cause burns.

(9) Battery label
(Code No. 1705-904-002-1)

A. WARNING: RISK OF EXPLOSION
Keep away from sparks or flames, which could cause explosion.

B. WARNING: WEAR AN EYE PROTECTION DEVICE
Battery electrolyte (euphoric acid) may cause blindness. Wear an eye protector to prevent contact with the eyes.

C. WARNING: KEEP OUT OF REACH OF CHILDREN

D. WARNING: RISK OF BURNS
Battery electrolyte (sulphuric acid) may cause burns Avoid contact with skin or clothing. In case of an accident, flush affected part immediately with plenty of water.

E. WARNING: RISK OF EXPLOSION
Never use the battery with the electrolyte surface below the "LOWER" limit, or it may explode. Never replenish exceeding "UPPER" limit or electrolyte may leak out. Maintenance free battery does not need to replenish distill water.

F. WARNING: READ OPERATION MANUAL
Read the safety and operating instructions in the operation manual before operating the tractor.

(10) Starter warning label
(Code No. 1705-902-007-0)

DANGER: RISK OF ELECTRIC SHOCK
Start the engine only from the seat using the key.

(11) Operation caution label
(Code No. 1774-902-001-0)

A. WARNING: BEFORE OPERATION
Read the safety and operating instructions in the operation manual before operating the tractor.

B. WARNING: BEFORE OPERATION
Read the safety and operating instructions in the operation manual before operating the tractor.

C. WARNING: RISK OF ABRUPT MOVING
Before leaving the tractor unattached, apply the parking brake, lower the implement, turn off the engine and remove the starter key to avoid unexpected moving of the tractor.

D. WARNING: RISK OF INJURY OR DAMAGE
Pay attention to safety around the machine to avoid injury to bystanders or damage to properly.

CAUTION: This label is included in the operation label on right side fender.
E. WARNING: RISK OF OVERTURNING
Never operate the tractor on a slope of over 10 degrees, or it could overturn.

F. WARNING: RISK OF INJURY OR DAMAGE
Never allow other persons to get on the tractor or the implement.

(12) Fuel label
(Code No. 1705-904-001-0)

DANGER: RISK OF EXPLOSION AND BURNS
Use only diesel fuel.
Keep sparks, open flames, etc. away from the fuel tank.
No smoking!

(13) Stop the engine when replenishing a fuel label
(Code No.1728-903-002-0)

DANGER: RISK OF EXPLOSION AND BURNS
Before replenishing fuel, be sure to stop the engine and wait until the engine and heated parts cool down sufficiently.

(14) ROPS label
(Code No. 1674-904-005-0)

WARNING: RISK OF INJURY
Keep the ROPS in the upright position and fasten the seat belt at all times. Do not jump from the seat if the tractor starts to overturn, or you could be crushed under the tractor. The ROPS should usually be kept in the upright position during operation. However, when the ROPS has to be lowered, do not wear the seat belt and operate the tractor with extreme caution. Do not operate the tractor with a damaged or modified ROPS.

(15) Reverse label
(Code No.1674-904-007-1)

WARNING: RISK OF INJURY
Pay attention to safety around the machine when you drive to backward. And drive it at slower speed than driving forward.
Note the serial numbers of your tractor. Always quote the numbers in any communication to your ISEKI dealer.

TRACTOR HOMOLOGATION ATTESTATION NUMBER (Fig.2-1 & 2-3(1))

TRACTOR SERIAL NUMBER (Fig. 2-2 & 2-3(2))

ENGINE MODEL NUMBER (Fig. 2-4 (1))

ENGINE SERIAL NUMBER (Fig. 2-4 (2))

CHASSIS NUMBER (Fig. 2-5)

NOTE: Reference to left-hand and right-hand, used throughout this book, refers to the position when seated in operator’s seat and facing forward.
FIG. 3-1 Identification and terminology of major components, as given in this book, are as follows:

1. Front Wheels
2. Fuel Tank
3. Check Chain
4. Lift Rod
5. Lower Link
6. Rear Wheels
7. Operator's Seat
8. Instrument Panel
9. Steering Wheel
10. Fender
11. Rear conve Light
12. Hood
13. Front Grille
14. Battery
15. Front Hitch
16. Engine
17. Floor
18. Transmission
19. Front Wheel-Drive Shaft
20. Headlight
21. Front Axle
22. Front Axle Pivot
23. Lift Arm
24. Rear Axle
25. Front conve Light
26. Clutch Housing
27. Rear Hitch
28. ROPS
INSTRUMENTS & CONTROLS

Generally layout and location of controls within operator's area on Tractor. Specific use of these controls is given later in this section and also in "Operation" section of this book:

**FIG.4-1: Mechanical Transmission**
1. Instrument Panel
2. Steering Wheel
3. Clutch Pedal
4. Parking Brake
5. Mid PTO Lever (M Type)
6. 4WD Shift lever
7. Seat (local arrangement)
8. Differential Lock Pedal
9. Main Gearshift Lever
10. Range Gearshift Lever
11. Rear PTO Lever
12. Three-Point Hitch Control
13. Foot Throttle
14. Throttle lever
15. Brake Pedals
16. Combination switch (horn button, headlamp switch, position lamp switch, turn signal switch)
17. Shaft lever
18. Main Switch
19. Hazard Signal Switch

**FIG.4-2: Hydrostatic Transmission**
1. Instrument Panel
2. Steering Wheel
3. PTO switch
4. Parking Brake
5. Mid PTO Lever
6. 4WD Shift lever
7. Seat (local arrangement)
8. Differential Lock Pedal
9. Range Gearshift Lever
10. Rear PTO Lever
11. Three-Point Hitch Control
12. Throttle lever
13. Brake Pedal
14. Combination switch (horn button, headlamp switch, position lamp switch, turn signal switch)
15. PTO mode change switch
16. Main Switch
17. Hazard Signal Switch
18. Auto cruse lever
INSTRUMENT PANEL

**FIG. 4-3 TM3215 / 3245 / 3265**: An arrangement of gauges, control switches and indicators located in instrument panel. Items are detailed in the description that follows:

### Electrical Fuel Shut-Off

Turning the main switch to off will stop the engine.

This tractor is equipped with a solenoid valve, and in case “key” is off position and “solenoid” is off position, the fuel is shut off.

In case “key” is on position and “solenoid” is on position, the fuel is available.

If electrical malfunction happens, engine stops.

### Main Switch

**FIG. 4-4**: Main Switch (1) has the four following positions:

- **OFF**: Engine and all electrical circuits off. Key can be removed.
- **ON**: Power supplied to all circuits. Normal operating position.
- **GLOW**: Energizes glow plugs to preheat the combustion chambers and assist starting.
- **START**: Starter activated. This position spring-loaded to “ON”.

**NOTE**: The main switch must be turned to “ON” before any circuits will operate. The PTO lever (or switch) must be off and the clutch pedal depressed (Mechanical Transmission) and the range gear shift lever is in neutral (Hydrostatic Transmission) before the engine can be started.

**NOTE**: When the main switch is selected to “GLOW” position, the engine combustion chambers will be preheated and allow a cold engine to be started after several seconds.
Indicator Light Strip

FIG. 4-5: Indicator light strip contains several warning lights to monitor certain functions. Currently used positions (from left to right) are:

1. 4WD - Lights up when 4WD is engaged. Lights off when 2WD is engaged.
2. Glow - Lights up when Glow position.
3. Parking - Lights up when parking brake is engaged. Light off when parking brake is not engaged.
4. Hazard and Trailer - Lights up when hazard lamp is “ON” or lights up when winker is “ON” with trailer.
5. Battery Charge - Lights up when main switch is turned “ON” and will go out after engine starts, to indicate battery is being charged.
6. Engine Oil Pressure - Lights up if engine oil pressure is low, if the light comes on while the engine is running, shut off the engine immediately and investigate the cause.
7. PTO operation - Lights up when PTO switch is “ON” (Only for HST-type)
8. Main (High) Beam - Lights up when the headlamps in the front grill are selected to the high beam position by the lamp switch.
9. Fuel Gauge - The fuel gauge indicates the level of diesel fuel in the fuel tank when the starter switch is ON.

NOTE: Use only clean diesel fuel and clean area to prevent dirt / water into fuel tank when refilling. DO NOT run out of fuel as bleeding air from the system will be required. Keep fuel tank full to minimize condensation.

CAUTION: DO NOT refill fuel tank with engine running or hot. Allow cooling period. DO NOT smoke near fuel tank and clean up any spilt fuel.

10. Water Temperature Gauge - Indicate the radiator water temperature when starter switch is “ON”.

NOTE: The gauge can not indicate an accurate fuel level when the tractor is on a incline. It takes a little time to indicate an accurate level after the tractor recovers its horizontal position limit.
CAUTION: DO NOT service hot engine. Allow to completely cool before servicing or removing radiator cap.

(11) Tachometer

Scale on gauge - Indicates engine speed on crankshaft revolutions per minutes (rpm).

Index is also provided to show rear PTO speed of 540 at approximately 2475 engine rpm.

Normally, the PTO speed should be between 540 and 600. Operating the PTO at a speed above 600 is too fast, and may result in a breakdown of the tractor or implement.

Hourmeter in centre of gauge indicates engine and tractor use to assist in maintenance intervals. The extreme right digit indicates 1/10 hour increments.

SWITCHES

FIG. 4-7: Location of switches

Horn / Light Turn Switch

FIG. 4-8: Horn / Light Turn Switch.

Horn Switch, 1 - Horn will sound when center switch button is depressed.

Light Switch, 2 - Is a rotary switch with three operating positions:

- OFF - Fully counterclockwise. All lights off.
- 1st - Front clearance lamps and rear tail lights.
- 2nd - Main beam headlamps and rear tail lights.

NOTE: Passing switch
Passing switch is turned on when switch knob is pulled to upward over the high beam position.

NOTE: When high beam is selected (2nd position), light in indicator light will come on.

Turn Switch, 3 - Operate switch handle in direction Tractor is being turned. The appropriate flashing amber warning light (ROPS-mounted) will operate as turn signal. Return switch to center position to cancel.

NOTE: Turn lights will not self-cancel. Select turn/hazard light switch to center position after completing turn.
Hazard Light Switch, 4 Fig4-10- Press switch to turn on hazard lights. Both flashing amber warning lights will operate at the same time.

⚠️ CAUTION: Hazard lights must be used any time Tractor is driven on public roadway. Consult local agencies for other marking requirements.

Fig4-11: Turn / hazard indicator lights, 5 and 6, will operate with front and rear conve lights. This provides operator with easy indication of warning light selection.

Power Take-Off (PTO) Switch (HST)

FIGS. 4-10 & 4-11: A dial-type safety switch, 7, is used to engage and disengage the PTO drive system. The switch must first be turned to right and then pulled up to engage PTO. When engaged, the PTO indicator light in the indicator light strip will illuminate. A PTO selectable switch, 8, is used to adjust PTO clutch modulation.

- Push on: soft start (button depressed illuminated) - for high inertia loads
- Push off: standard start (button out and not illuminated)

**IMPORTANT:** PTO switch is equipped with a lock-out to prevent accidental engagement of PTO system. To engage PTO, first turn switch clockwise and then pull up it. DO NOT FORCE SWITCH.

**NOTE:** PTO switch, 7, must be used in conjunction with rear PTO selector lever, to left of operator’s seat, when rear PTO is used. Refer to “operationsection” for complete details.

When PTO control switch is “ON” the engine cannot be started. Always switch off PTO to start engine.

This switch is equipped with only “Independent” PTO specification model.

“Independent PTO” is not equipped on “Mechanical transmission” type tractor.

**WARNING:** Always shut off PTO and shut off Tractor engine before servicing PTO-driven implement. Allow all movement and motion to stop before leaving operator’s seat.
MAIN CLUTCH PEDAL (Mechanical Transmission)

FIG. 4-12: Foot pedal (1) disengages engine from transmission when fully depressed, to permit engine starting, selecting / changing gears and stopping Tractor movement. PTO and Mid PTO selection (if equipped) also requires clutch disengagement. Slowly raising the pedal will engage clutch and resume power to transmission and PTO.

NOTE: Clutch pedal should be depressed quickly to prevent abnormal wear. Clutch pedal should be raised smoothly to prevent sudden movement. DO NOT "ride" clutch pedal with your foot. Hydrostatic drive models have no clutch pedal.

IMPORTANT: Correct clutch pedal free-play adjustment is a must. Consult “Maintenance” section.

BRAKES

Brake Pedals

FIGS.4-13 & 4-14: Inner brake pedal (1) and outer brake pedal (2) independently control the respective left and right wheel brakes, to assist in turning. During Tractor transport or high speed operation, brake pedals must be latched together using interlocking plate (3). Hydrostatic models do not have individual wheel brakes but single brake pedal (4).

CAUTION: Do not use individual wheel brakes for transporting or operating at high speed. Always latch pedals together using interlocking plate, 3. Make sure brakes are adjusted evenly.

Parking Brakes

FIG. 4-15: To engage parking brakes, pull upward on the parking lever (5) to lock brakes in applied position.

To disengage parking brakes, push in on release button (6) and lower the lever (5) to the released position.
ENGINE SPEED CONTROLS

**CAUTION:** Always select engine speed to ensure safe operation. Reduce speed prior to turning or reversing tractor.

**IMPORTANT:** DO NOT “race” or excessively load cold engine.

**FIG. 4-15:** Throttle lever (1) - Controls engine speed and will remain in position selected by the operator. With hand lever forward (стрелка), engine will idle. Engine speed increases as lever is pulled progressively rearward (стрелка). Accelerator pedal (2) - Will override setting of the throttle lever for increased engine speed. When the pedal is released, engine speed returns to the throttle lever setting.

**CAUTION:** When using the accelerator pedal, the throttle lever must be in low idle speed position. This ensures maximum “engine braking” when the pedal is released.

**NOTE:** Accelerator pedal (2) is not equipped with HST transmission type.
TRANSMISSION SHIFT LEVERS

There are two type of transmission for european model.

1. Forward 3 Reverse 3 (HST) type
2. Forward 8 Reverse 8 (mechanical) type

MECHANICAL TYPE

Two shift levers are used to select ground travel speed through different gear reductions within the drive train.

IMPORTANT: All range and gear change selections require complete disengagement of main clutch (depressing pedal).

Range And Gear Shift Levers

FIG. 4-17: The range shift lever 1 and gear shift lever 2 are located to the left of the operator’s seat.
The range shift lever provides three major speed changes 1. (HST type)
The gear shift lever provides 4 Mechanical type has two major speed changes gear selection 2. These gear selections provide a small change in ground speeds and/or direction.
In total, 8 gear speeds are possible.
HST type has cruise lever onto 2 position.

NOTE: Range shift lever must be in neutral position before the tractor can be started.

Forward/Reverse Lever

FIG. 4-19: Forward or reverse travel is selected by the lever (1) on the steering column.

(A) Forward
(B) Neutral
(C) Reverse

Moving the constantshuttle lever 1 forward will select forward travel. Moving the lever rearward will select reverse travel. Reverse travel speed is slightly slower than forward travel in the same gear speed selection. A new travel direction should be selected whenever the tractor is stopped.

CAUTION: In case of changing shift, make sure that tractor is stopping. If it is changed before tractor stop, gears in transmission break down and it is very dangerous.
DIFFERENTIAL LOCK

FIG. 4-20: When the differential lock 1 pedal is lowered, both sides of the rear axle are locked together to ensure traction to both rear wheels. This is especially important when operating in loose soil or slippery conditions. (Mechanical type)
In case of HST type, depress forward pedal slowly.
To engage the differential lock - Depress the clutch pedal and allow all rear wheel movement to stop. Depress the lock pedal and slowly engage the clutch.

IMPORTANT: DO NOT engage with rear wheel(s) spinning as severe damage may result.

To disengage the differential lock - Depress the clutch pedal and release the differential lock pedal. The lock pedal should normally return to the “off” position.

NOTE: On occasion, differential lock pedal may remain engaged due to torque difference exerted by rear wheels. In this case, tap brake pedals alternately while tractor is slowly in motion to release the pedal.
Dif lock pedal is locating at left side (HST type) and right side (Mechanical type).

CAUTION: When differential lock is engaged, steering ability of tractor will be greatly reduced. Disengage before attempting a turn.

CAUTION: DO NOT use differential lock on hard surfaces or when transporting the tractor.

FOUR-WHEEL DRIVE

FIG. 4-21: The four-wheel drive shift lever 1 engages and disengages the drive for the front axle. With the lever down, the front axle (4WD) is engaged. With the lever up, the front axle is disengaged, and power is available to both front and rear axles.

NOTE: 4WD indicator lamp will be illuminated when you push down the 4WD control lever.

IMPORTANT: Depress main clutch pedal and stop tractor before engaging or disengaging four-wheel drive.

When front axle is engaged, ground speed of front tires is slightly faster than the speed of the rear tires. This is to assist steering when four-wheel drive is selected.
For this reason, the front axle must be disengaged when the tractor is transported or operated on a hard, dry surface. Failure to do so will result in rapid wear of front drive tires and possible driveline damage.
IMPORTANT: Always disengage front drive axle when operating in conditions with minimal wheel slippage (DRY OR HARD SURFACES).

IMPORTANT: If tire replacement is necessary, identical replacements must be installed to maintain correct front/rear axle ratio.

REAR PTO SELECTOR LEVER

FIG. 4-23: Rear PTO (power takeoff) selector lever, 1, controls rear PTO on tractor. When lever is backward, 540 rpm rear PTO is selected. When returned to rear neutral (N) position, the gear lever is disengaged. (In case of independent clutch model)

Rear PTO selector lever is operated with PTO control switch on instrument panel. Refer to “Operation” selection for complete details.

IMPORTANT: Before moving rear PTO selector lever, PTO control switch on steering column must be off.

CAUTION: Always shut off PTO and shut off tractor engine before servicing PTO-driven implement. Allow all movement and motion to stop before leaving operator’s seat.

MID PTO SELECTOR LEVER

FIG. 4-25: The mid PTO selector lever, 1, controls the mid PTO on the tractor. When the lever is shifted Forward, the mid PTO operates. When lever is returned, neutral is selected, and the mid PTO will stop rotating. The mid PTO selector lever should be used with the PTO control switch on the instrument panel. Refer to the “Operation” section for complete details.

IMPORTANT: The PTO control switch must be set to Off when the mid PTO selector lever is operated.
Position Control

Position control is used when attaching or detaching implements and other operations requiring the implement to be kept at a constant height above the ground. It is also used with tool bars having flexible row units and implements equipped with gauge (support) wheels.

**FIG. 4-26:** The position control lever maintains hitch position at a constant height in relation to the tractor. As the position control lever 1 is moved backward, hitch and implement are raised. Moving the lever forward will lower hitch to selected position. Each lever setting provides a specific hitch and implement position. The front lever stop 2 can be set to contact the position control lever in the implement work position. This enables the implement to be returned to the identical position after the hitch has been raised for turning, transporting, etc. The rear lever stop 3 can be set to limit raising height, if required.

**NOTE:** When starting engine, ensure implement is lowered to the ground and lever is fully forward. This reduces load on starter due to hitch trying to raise when engine is cranked.

**FIG. 4-26:** To begin work, align the tractor and implement in the field and move the position control lever 1 forward (toward DOWN). Adjust implement height using the position control lever and set the adjustable stops 2 and 3 as desired. When turning, move position control lever backward (toward UP) to raise the implement and permit completion of turn. Return the implement to the work position by selecting the position control lever to the previous position against the stop. To finish work and transport, pull position control lever rearward fully to UP position.

**Lowering Rate Control Knob**

**FIG. 4-27:** The lowering rate knob 1 adjusts the rate of drop of the three-point hitch and implement. Turn knob clockwise to slow drop rate (increase lowering time), counterclockwise to increase drop rate (decrease lowering time). Turning the knob fully clockwise will lock the implement (or hitch) in raised position for transport.

**CAUTION:** When working on or around mounted implements, always lower to ground prior to work. If implement must be raised, always block implement and lower links securely.
BREAK-IN PERIOD

The operation of Tractor within the first fifty hours can be a major factor in determining the performance and life of the engine and Tractor:

・ The engine may be operated at full rpm but excessive load should be avoided. If engine begins to “lug” operate in a lower gear to maintain higher engine speed.
・ Check coolant level and check engine, transmission and other oil levels frequently during break-in period. Watch for evidence of leakage of above fluids. Replenish levels as required and repair any leaks that may have formed.
・ Tighten any nuts, bolts, or screws that may have loosened and tighten as necessary. This is especially true of wheel retaining bolts. All fasteners on this Tractor are metric.
・ Be observant of clutch pedal free-play adjustment and brake adjustment and readjust as required. Lining materials used on clutch and brake discs “bed in” in the first few hours of operation and may necessitate the need for early and frequent readjustment.
・ Keep area around fuel tank filler clean and make sure diesel fuel is correct grade and free of contamination.
・ Initial engine oil and oil filter change is after first fifty hours of operation. Subsequent change interval is every one hundred hours for engine oil and filter.

CAUTION: Proper maintenance practices cannot be over-emphasized. They are required for safe operation. Consult “Lubrication and Maintenance” section for full details.

STARTING

Pre-Start Inspection

Prior to daily start-up of Tractor, a few basic procedures should be followed to ensure Tractor is in operating order to insure life and dependability:

・ Make sure all safety shields are in place and secured properly.
・ Make sure operator is instructed on correct and safe operation of Tractor and related attachments or implements.
・ Check coolant, engine oil and transmission oil levels and replenish as necessary.
・ Check fan belt tension and adjust as required.
・ Make sure radiator, air intake screens and radiator screen are clear of debris to provide maximum engine cooling.
・ Check operation of clutch, brake and throttle controls. All controls must operate freely and be adjusted correctly.
・ Conduct a general inspection of tires, tire pressure and wheel bolt torque. Observe for external signs of leakage and correct before operating Tractor. Check steering for excessive looseness.
・ Check for adequate fuel supply. It is recommended fuel tank be filled following each day’s use to reduce condensation and provide full tank for next use.
・ Check operation of lights and warning flashers. If Tractor is to be transported on public road, ensure slow-moving vehicle emblem is in place.

NOTE: Requirements may vary regarding use of warning flashers and slow-moving vehicle emblem depending on locality. Check local safety codes.

WARNING: Carefully read and understand the SAFETY section of this manual. Your life, and that of others, can be in danger during the starting of the Tractor. Always start and operate the engine in a well ventilated area. If in an enclosed area, vent the exhaust to the outside. DO NOT modify or tamper with the exhaust system.
Normal Starting

**CAUTION:** Do not attempt to start the tractor unless seated in the operator’s seat. Do not allow anyone on the tractor except for the operator.

**FIGS. 5-1, 5-2 & 5-3:** To start the engine proceed as follows:

1. Apply parking brake (1).
2. (a) Mechanical Transmission  
   Place the gear shift lever (2) in the neutral position.  
   (b) Hydrostatic Transmission  
   Place the range shift lever (2) in the neutral position.
3. Make sure the rear PTO (4) and mid PTO selector levers (5) are in the neutral position.
4. Fully depress the main clutch pedal (6) to disengage the clutch. (Mechanical Transmission)
5. Make sure the PTO switch (7) is in the OFF position. (Hydrostatic Transmission)

**CAUTION:** The operator being seated in the operator’s seat, the gearshift lever must be in neutral and the PTO levers must be in neutral to actuate safety switches and permit operation of the starter motor.

6. Set the position control lever (8) (three-point hitch) in the down position.
7. Turn the main switch (9) to the “glow” position for 5-10 seconds.
8. Set the throttle lever (10) at half to the fully open position.
9. Turn the main switch (9) to the “on” position for 1-2 seconds, then turn to the “start” position. Release the switch the moment engine starts.
10. Once the engine runs smoothly, set engine speed to approximately 1,500 rpm to allow the engine and hydraulic system to warm up for several minutes. **DO NOT LOAD A COLD ENGINE.**

**IMPORTANT:** Do not crank the engine for more than 10 seconds at a time. Allow the starter to cool at least 20 seconds before repeating procedure. Never turn the main switch to “start” with the engine running. Severe damage will result.

The battery charge indicator lamp and engine oil pressure lamp on the indicator light strip should go out when the engine starts. If either light remains lit, STOP THE ENGINE IMMEDIATELY and investigate source of problem.

**NOTE:** If the engine will not start and run after several attempts, refer to “Maintenance” section in this book and bleed any air that may be present in the fuel system.
Restarting Warm Engine

When restarting an engine that is still warm from previous use, the same procedure is used as with “normal starting” except step No. 7 may be omitted. Use of glow plugs is not necessary when starting a warm engine.

Warm-Up Period

After starting a cold engine, let the engine idle at slow speed to make sure all engine components are lubricated. In cold ambient temperatures, extended warm-up will be required to also warm hydraulic fluid and lubricate driveline components. Suggested warm-up period:

<table>
<thead>
<tr>
<th>Ambient Temp.</th>
<th>Warm-Up Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>F°</td>
<td>C°</td>
</tr>
<tr>
<td>32° &amp; up</td>
<td>0° &amp; up</td>
</tr>
<tr>
<td>32° to 24°</td>
<td>0° to -10°</td>
</tr>
<tr>
<td>24° to -2°</td>
<td>-10° to -20°</td>
</tr>
<tr>
<td>-2° &amp; less</td>
<td>-20° &amp; less</td>
</tr>
</tbody>
</table>

IMPORTANT: Improper warm-up can result in:
- Severe engine damage
- Hydraulic pump seizure
- Driveline bearing / gear damage
- Sluggish steering / braking

CAUTION: Make sure parking brake is securely applied and all controls are in neutral while warming unit. Do not leave unit unattended.

Operator Observations

Constant attention should be paid to the following points during operation:
- Engine oil pressure lamp will come on in case of low engine oil pressure. Stop engine immediately.
- Battery charge lamp will come on if the battery is not being charged properly. Stop the engine and investigate the cause.
- Coolant temperature gauge needle will indicate H (hot) in case of an overheated engine. Stop the engine, and allow it to cool and investigate the cause of overheating.
- Fuel gauge should not be allowed to reach E (empty) as running out of fuel may result with need to bleed air from the fuel system.

CAUTION: DO NOT attempted to service the tractor with the engine running or hot. Allow it to cool.

NOTE: Refer to “Trouble-Shooting” when defect is indicated, to assist locating problem.

Cold Weather Starting

Procedure for starting an engine in cold ambient temperatures is identical to “Normal Starting” procedure except for the following:
1. Longer use of glow plugs may be required. Instead of the normal 5-10 seconds, the main switch may need to be selected to “glow” for 10-20 seconds to adequately warm engine combustion chambers.
2. At temperatures below 30° F (4°C) use of No.1 (No. 1-D) diesel fuel is recommended due to possible “fuel gelling” characteristics of No. 2 (No. 2-D) fuel at cold ambient temperature.
3. The central hydraulic fluid in addition to transmission and centre housing lubrication, will require additional warm-up time due to cold (thicker) oil.
   Refer to “Warm-Up Period” below.
4. Test all controls (steering, braking, etc.) prior to operating the tractor.

NOTE: Installation of accessory engine block heater is recommended in cold weather conditions. Consult your ISEKI dealer.

IMPORTANT: UNDER NO CIRCUMSTANCES SHOULD EITHER OR OTHER STARTING FLUID BE USED TO START ENGINES EQUIPPED WITH GLOW PLUGS. SEVERE ENGINE DAMAGE WILL RESULT SHOULD STARTING FLUID CONTACT HOT GLOW PLUG.

If, for some reason, a booster battery by required to start the tractor, ensure a booster battery is connected in parallel. When using a booster battery and booster cables always connect positive(+) terminals together first. Then install booster cable on the booster battery negative(-) terminal and ground final booster cable end on the tractor away from the tractor battery.
MECHANICAL TRANSMISSION

Ground Speed Selection

Tractor is equipped to provide 8 forward gear speeds and 8 reverse gear speeds.

**FIG. 5-4:** Gear shift lever, 1, provides four gear selections. These gear selections are compounded by range shift lever, 2. The range shift lever provides 2 major changes in ground speed. Gear shift lever provides smaller ground speed changes.

**FIG. 5-5:** Depress clutch pedal and position shift levers in desired positions. Depress brake pedals to release parking brake lock and then slowly release clutch pedal.

Should another transmission gear be desired:

- **Range Shift** - Depress the clutch pedal and shift gears after bringing the tractor to a complete stop.

- **Gear shift** - Depress clutch and brake pedals stopping the Tractor. Select desired range lever position and continue with operation.

**IMPORTANT:** Depress clutch and stop Tractor before all range lever shifts.
MECHANICAL TRANSMISSION

Ground Speed Selection

FIG. 5-6: Arrangement of gears with appropriate ground speeds, in order from slow to fast, are shown in chart below, for mechanical transmissions.

<table>
<thead>
<tr>
<th>SHIFT POSITIONS</th>
<th>TM3215 (Engine 2500 rpm)</th>
<th>TM3245 (Engine 2600 rpm)</th>
<th>TM3265 (Engine 2600 rpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>Gear</td>
<td>KPH</td>
<td>KPH</td>
</tr>
<tr>
<td>Tire</td>
<td></td>
<td>KPH</td>
<td>KPH</td>
</tr>
<tr>
<td>(9.5 - 16)</td>
<td>Turf (31X13.5 - 15)</td>
<td>(9.5 - 18)</td>
<td>Turf (315/75D - 15)</td>
</tr>
<tr>
<td>Forward</td>
<td></td>
<td>(Engine 2500 rpm)</td>
<td>(Engine 2600 rpm)</td>
</tr>
<tr>
<td>1</td>
<td>1.5</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>2</td>
<td>2.0</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>3</td>
<td>3.1</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>4</td>
<td>4.0</td>
<td>4.4</td>
<td>4.4</td>
</tr>
<tr>
<td>Reverse</td>
<td></td>
<td>(Engine 2500 rpm)</td>
<td>(Engine 2600 rpm)</td>
</tr>
<tr>
<td>1</td>
<td>1.3</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>2</td>
<td>1.8</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>3</td>
<td>2.8</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>4</td>
<td>3.6</td>
<td>3.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Max. Speed</td>
<td></td>
<td>High Idle</td>
<td>High Idle</td>
</tr>
<tr>
<td>(forward)</td>
<td></td>
<td>(Engine 2500 rpm)</td>
<td>(Engine 2600 rpm)</td>
</tr>
<tr>
<td>22.1</td>
<td>20.4</td>
<td>24.4</td>
<td>23.2</td>
</tr>
</tbody>
</table>
FIG. 5-7: Forward/reverse shuttle lever, 3, provides constant changes in travel direction in each gear/range combination. Reverse travel speed is slightly slower than forward travel in the same gear speed selection.

**CAUTION:** Reduce engine speed before changing travel direction. Tractors with manual “shuttle” require complete stop of tractor before changing shuttle lever position.

STOPPING TRACTOR

FIGS. 5-8 & 5-9: Brake pedals, 1 and 2, may be used independently to operate respective brake and assist turning at low speed operation. Unlatch brake pedals and use as required to assist turning.

When Tractor is being used at higher rate of speed, brake pedals must be latched together with interlocking plate, 3, so both brakes will apply at the same time.

**CAUTION:** Do not use one wheel braking at high speed. Always latch brake pedals together when Tractor is being transported. Make sure brakes are adjusted evenly.

To stop the tractor with Mechanical transmission, move the throttle lever, 1, forward, to reduce engine speed and slow travel. Depress the clutch pedal, 2, and brake pedal, 3, to stop. Position the range shift lever, 4, and shuttle shift, 5, in neutral position.

Be make sure to latch the brake pedals together, depress the brake pedals and pull parking brake lever, 6, up firmly. Allow engine speed to idle several minutes to allow even cooling. Then turn main switch to “off” shutting off engine. Lower three-point hitch and remove key from ignition.

**CAUTION:** Before leaving the tractor unattended, make sure parking brakes are applied, rear mounted implement is lowered to the ground and the key is removed from the ignition switch.
FIG. 5-10: Always park Tractor on level area whenever possible. If hillside parking is necessary, securely block both rear wheels as shown.

HYDROSTATIC TRANSMISSION

Ground Speed Selection

FIGS. 5-11 & 5-12: The Hydraulic transmission provides infinite speed control in forward or reverse.

The range shift lever (1) provides major changes in ground speed. Tractors have snail, tortoise and hare speed selections.

Pedal (2) controls forward travel speed. As the pedal is progressively pushed down, a corresponding increase in ground speed will be noticed. When released, the pedal will return to neutral and the tractor stops travelling.

Reverse speed is obtained by pushing pedal (3) down. As the pedal is progressively pushed down, a corresponding increase in ground speed will be noticed. When released, the pedal will return to neutral and the tractor stops reversing.
FIG. 5-13: Arrangement of gears with appropriate ground speeds, in order from slow to fast, as shown in the chart at right, for hydrostatic transmission.

**CAUTION:** Before leaving the tractor unattended, make sure parking brakes are applied, rear mounted implement is lowered to the ground and the key is removed from the ignition switch.

**Stopping Tractor**

FIG. 5-14: To stop the tractor with a hydrostatic transmission, release the forward HST pedal (3).

This action will stop forward travel. Move the throttle lever (1) forward to reduce engine speed, depress the brake pedal (2) and set the parking brake lever (3). Move the range shift lever (5) to neutral position. Allow the engine to idle several minutes to allow even cooling, then turn the main switch to the “off” position, shutting off the engine. Lower the three-point hitch and remove the key from the main switch.

**CAUTION:** Make sure brakes are adjusted evenly.

**CRUISE CONTROL**

**Setting cruise control**

Depress the forward pedal (3) and keep your intended speed. And shift the cruise control lever (6) to forward direction and set it.

**CAUTION:** If it is adjusted only by the cruise control lever without pedal operation, the cruise control lever will be deformed. Never fail to operate the forward pedal and set with the lever.

**Releasing cruise control**

Cruise control is released if the lever is returned to neutral position gradually or brake pedal (2) is depressed.

**CAUTION:** If cruise control is released by depressing brake pedal, it is dangerous because broke is engaged at the same time. Except for emergency case, release the cruise control by shifting cruise control lever to neutral position gradually.

**WARNING:** Cruise control should only be used in open spaces, without obstacles, with unobstructed view or traveling on road. You must also be thoroughly familiar with releasing cruise control.
DIFFERENTIAL LOCK OPERATION

FIG. 5-17: Differential lock pedal (2) should only be depressed when required as steering ability is greatly reduced. To engage the differential lock, depress the clutch pedal and allow all rear wheel movement to stop. Depress the lock pedal and slowly engage the clutch. To disengage the differential lock, depress the clutch pedal. The Differential Lock pedal should normally return to the “off” position.

IMPORTANT: Depress the main clutch pedal and stop the tractor before engaging the differential lock.

CAUTION: When the differential lock is engaged, steering ability of the tractor will be greatly reduced. Disengage before attempting a turn. Do not use during transport. Dif-lock pedal is located at left side for HST-type, and right side for mechanical type.

FOUR-WHEEL DRIVE

FIG. 5-18: The four-wheel drive shift lever 1 engages and disengages the drive for the front axle. With the lever down, the front axle (4WD) is engaged and power is available to both front and rear axles. With the lever up, the front axle is disengaged.

NOTE: Illuminate the monitor lamp on the meter panel when 4WD control lever is pushed down.

IMPORTANT: Depress main clutch pedal and stop tractor before engaging or disengaging four-wheel drive. Do not use 4-WD on hard surfaces. Rapid wear of the front tyres and possible drive line damage could occur if 4-WD is operated for prolonged periods on hard surfaces.

FIG. 5-19: When the front axle drive is engaged, the ground speed of the front tyres will vary from that of rear tyres. This is to assist steering when four-wheel drive is selected. For this reason, the front axle must be disengaged when the tractor is transported or operated on a hard, dry surface. Failure to do so will result in rapid wear of the front drive tyres and possible driveline damage.

IMPORTANT: Always disengage front drive axle when operating in conditions with minimal wheel slippage (DRY OR HARD SURFACES). If tire replacement is necessary, identical replacements must be installed to maintain correct front/rear axle ratio.
POWER TAKE-OFF (PTO)

WARNING: PTO shafts and PTO driven implements can be extremely dangerous. Observe the following important points:

DO NOT operate tractor without a PTO cap installed. The cap protects people from injury as well as the splines from damage.

Before attaching, adjusting or working on PTO driven implements, disengage the PTO, stop the engine and remove the key. DO NOT work under raised equipment.

Before engaging a PTO-driven implement, ALWAYS carefully raise and lower the implement using Position Control. Check clearances, PTO shaft sliding range and articulation.

Ensure that all PTO safety shields are in place at all times.

Ensure all PTO-driven implements are in good condition and conform to current standards.

NEVER step across any driveline.

DO NOT use the tractor drawbar or the implement drawbar as a step.

NEVER use the driveline as a step.

NEVER wear loose fitting clothes.

Rear PTO Shaft

FIG. 5-20: A six-spline 1 3/8” (35 mm) PTO shaft (1) is provided at rear of the tractor to provide power for mounted and other PTO-driven equipment as required.

Normal rear PTO shaft operating speed:

<table>
<thead>
<tr>
<th>Transmission</th>
<th>Normal Operating Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Transmission (TM 3215)</td>
<td>545 min⁻¹ (rpm) @ 2500 engine min⁻¹ (rpm)</td>
</tr>
<tr>
<td>(TM 3245)</td>
<td>567 min⁻¹ (rpm) @ 2600 engine min⁻¹ (rpm)</td>
</tr>
<tr>
<td>(TM 3265)</td>
<td>567 min⁻¹ (rpm) @ 2600 engine min⁻¹ (rpm)</td>
</tr>
<tr>
<td>Hydrostatic Transmission (TM3215)</td>
<td>550 min⁻¹ (rpm) @ 2500 engine min⁻¹ (rpm)</td>
</tr>
<tr>
<td>(TM 3245)</td>
<td>571 min⁻¹ (rpm) @ 2600 engine min⁻¹ (rpm)</td>
</tr>
<tr>
<td>(TM 3265)</td>
<td>571 min⁻¹ (rpm) @ 2600 engine min⁻¹ (rpm)</td>
</tr>
</tbody>
</table>

A protective cover should be positioned over the shaft splines when not in use.

IMPORTANT: When the rear PTO is used with a three-point mounted equipment, it may be necessary to remove the drawbar, at rear of the tractor. Some types of mounted equipment, when lowered, may allow the PTO shaft to contact drawbar.
CAUTION: Make sure all PTO shields are installed on the tractor and equipment. Before cleaning or adjusting the tractor or PTO-driven machine, SHUT OFF THE ENGINE AND DISENGAGE THE PTO.

Mid PTO Shaft (M Type)

FIG. 5-22: Mid PTO (1) is a forward-facing shaft located at underside of the tractor. This is installed to operate certain mid or front-mounted implements. A 1” (25.4 mm) fifteen-spline shaft is used.

Normal mid PTO shaft operating speed:

- **Mechanical transmission**
  - (TM 3215) 2032 min⁻¹ (rpm) @2500 engine min⁻¹ (rpm)
  - (TM 3245) 2113 min⁻¹ (rpm) @2600 engine min⁻¹ (rpm)
  - (TM 3265) 2113 min⁻¹ (rpm) @2600 engine min⁻¹ (rpm)

- **Hydrostatic transmission**
  - (TM3215) 2047 min⁻¹ (rpm) @2500 engine min⁻¹ (rpm)
  - (TM 3245) 2129 min⁻¹ (rpm) @2600 engine min⁻¹ (rpm)
  - (TM 3265) 2129 min⁻¹ (rpm) @2600 engine min⁻¹ (rpm)

The mid PTO cover must be installed when the use of the mid PTO is not required.

CAUTION: Make sure all PTO shields are installed on the tractor and equipment. Before cleaning or adjusting the tractor or any PTO driven machine, SHUT OFF THE ENGINE AND DISENGAGE THE PTO.
PTO OPERATING CONTROLS

Mechanical Transmission

The rear PTO is engaged and disengaged using the lever. When the lever (1) is backward the rear PTO is disengaged.

Use the following procedures when operating with PTO tools, such as mowers, etc.

The tractors have a single clutch. With the PTO engaged and transmission gears selected, the PTO will start turning and the tractor will start moving forward as the clutch is released.

In operations such as mowing grass it will be necessary to back the tractor up about two tractor lengths away from uncut grass. This will allow time to start forward motion and obtain correct PTO speed prior to entering the area of uncut grass.

To select the rear PTO, push the clutch pedal completely down to disengage drives to the PTO and transmission. Lever (1) to position in slot, and the gearshift levers to selected gear. Release the clutch pedal at slow engine speed to start the PTO and forward travel, then increase engine speed to obtain the required PTO speed.

To select the mid mounted PTO, use the same procedure as outlined rear PTO, but use the mid PTO control lever. With the clutch pedal fully depressed move the lever (2) to position to engage the PTO and to position to disengage it.

IMPORTANT: Before moving the rear and mid-PTO selector levers, the clutch pedal must be depressed to disengage power to the drive.

FIG. 5-23
PTO OPERATING CONTROLS

Hydrostatic transmission

FIG. 5-24
FIG. 5-24 & 5-25: Rear PTO and mid PTO are both controlled by PTO control switch (1).

Rear PTO selector lever (2) is used to engage rear PTO gears inside the transmission housing.

To select a PTO: If the rear PTO is to be used, make sure PTO control switch is OFF and then pull rear PTO selector lever (2) forward to \( \text{M} \) position (540 rpm) to engage coupling (4).

If the mid PTO is to be used, make sure the PTO control switch is OFF and then push mid PTO selector lever (3) forward to \( \text{M} \) position (2000 rpm) to engage gear (6).

If both PTO’s are to be used, make sure PTO control switch is OFF and shift both control levers to the engaging positions.

To engage PTO: The PTO switch (1) must be first be pushed in and rotated clockwise to actuate hydraulic clutch (5) and complete the drive.

To disengage PTO: The PTO control switch (1) is pushed to release hydraulic clutch (5).

ALWAYS move PTO control switch to OFF before shifting a PTO selector lever (2 or 3).

PTO Operating Controls

The pressure control unit, 7, operates when the PTO clutch, 5, begins to operate, enabling efficient engaging of the PTO with a minimum of shock.

Setting the mode change switch, 6, facilitates optimum engagement of the PTO.

Push PTO selectable switch, 6, to engage rear and mid PTO more smoothly and slowly.

Push PTO selectable switch, 6, again, to return to normal mode.

NOTE: Lower the engine speed when turning on PTO control switch if there is considerable shock.

THREE-POINT HITCH

Three-point hitch combines the tractor and implement into one working unit. Implement positioning and raising are controlled hydraulically. In addition, implement weight and loads impose downward pressure to the tractor rear wheels to increase traction.

Hitch Controls

FIG. 5-28: Control quadrant, to the right of the operator’s seat, controls the system which provides the following hitch control functions:

Position Control - Maintains the hitch position at constant...
height in relation to the tractor. As the position control lever (1) is moved rearward, the hitch (and implement) are raised. Moving the lever forward will lower the hitch to the selected position. Each lever setting provides a specific hitch (and implement) position.

**FIG. 5-29:** Lowering Rate Control Handle (2) controls the discharge rate of hydraulic oil thus adjusting lowering speed of the hitch and implement. Turn the handle clockwise to slow drop rate, counterclockwise to increase drop rate. Turning the handle fully clockwise will lock the implement in raised position.

**CAUTION:** When working on or around mounted implements, always lower them to ground prior to work. If an implement must be raised, always block the implement and the lower links securely.

**CAUTION:** Always shut off the PTO and shut off the tractor engine before servicing any PTO-driven implement. Allow all movement and motion to stop before leaving operator’s seat.

**CAUTION:** Use the position control lever (FIG. 5-28-(1)) when attaching or detaching an implements.

**NOTE:** When starting the engine, ensure the implement is lowered to the ground. This reduces load on the starter due to hitch trying to rise when the engine is cranked.

**Rear Linkage**

**FIG. 5-30:** Linkage consists of several major components for implement attachment and operation:

**Lower Links (1)** - Primary attaching points to lower implement pins.

**Lift Rods (2)** - Connect the lower links to the hydraulic lift arms for raising / lowering of the lower links. The lift rod connected to the right lower link has provisions for levelling the implement (side to side).

**Check Chains (3)** - Reduce side sway of the implement.

**Top Link (4)** - Adjustable, turn-buckle type to level implement (from to rear).

**Spring (5)** - Secures the lower links together to prevent tyre interference when the hitch is not used.
FIG. 5-31: Linkage provides two positions of connecting the top link (1) to the tractor. For most implements, securing the top link (1) in the upper hole A is satisfactory, but position may be varied to provide increased implement height during transport.

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**CAUTION:** Secure all pins after adjustment is made. Always use pins supplied with the tractor.

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When top link is not used, fix top link by top link hook.

---

**CAUTION:** Hook on the screw parts of top link and never interfere with lift rod.

---

When top link is used, hold the top link hook by clamp on frame.
Attaching Implements

**CAUTION:** Always use POSITION CONTROL to attach / detach implements to provide precise control of the hitch.

**FIG. 5-34:** Reverse the tractor to the implement, centering the tractor with the implement hitch frame.

Raise or lower the hitch using the position control lever (1) and align the left lower link end with the corresponding implement attaching pin. Lock the brakes, shut off the engine and remove the main switch key.

**FIG. 5-35:** Slide the ball end of the left lower link (1) over the implement pin and secure with a linchpin. Adjust height of the right lower link using the turn buckle (2). Attach and secure the right lower link (3) to the implement with a linchpin. Attach the top link (4) to the top of the implement hitch frame using the pin supplied with the tractor. Rotate the centre barrel section of the top link, to lengthen or shorten it, and level the implement from front to rear. After the implement is attached, it can be readjusted for level operation using the lift rod and top link turn buckles. Secure all adjustments.

**IMPORTANT:** With some “mounted” implements, it will be necessary to remove the drawbar at rear of the tractor to permit the implement to be raised and lowered without obstruction.

**FIG. 5-36:** Certain implements require minimal sideplay. The check chain (1) at each lower link should be evenly adjusted to reduce side-play to the desirable level. Do not, however, eliminate all side-play as chain or lower link damage may result.

**NOTE:** The amount of side-play (check chain looseness) is dependent upon the implement to be mounted and type of operation. Normally 50 mm (2”) of total side movement is desired, 25 mm (1”) to each side of the tractor centre line.
Using Position Control

Function - Attaching / detaching implements and operations requiring the implement to be kept at constant height above ground. Also used with tool bars having flexible row units and implements equipped with gauge (support) wheels.

**FIG. 5-37:** Lever Positions - Use the control lever (1) to adjust hitch and implement position.

**NOTE:** Front lever stop (2) can be set to contact position control lever in implement work position. This enables the implement to be returned to identical position after the hitch has been raised for turning, transporting, etc. Rear lever stop (3) can be set to limit raising height, if required.

**To Begin Work** - Align the tractor and implement in field and move the position control lever (1) forward (toward DOWN). Adjust implement height using the position control lever and set the adjustable stops (2) and (3) as desired.

**When Turning** - Move the position lever (1) rearward (toward Up) to raise the implement. Finish turning and return the lever against the lower stop to resume operation.

**To Finish Work and Transport** - Move the position control lever (1) fully rearward in the quadrant.

**FIG. 5-38:** Lowering speed can be readjusted as necessary using the lowering rate control handle (4). Turning the handle fully clockwise will prevent links from lowering.

**CAUTION:** When using a mounted implements with PTO driveline, make sure:
- PTO drive shaft has minimum 51 mm (2") engagement of telescoping sections at all hitch / implement positions.
- Hitch height during raising does not bind driveshaft universal joints due to extreme driveshaft angles.
- PTO drive is disengaged during transport.
Detaching Implements

**CAUTION:** Always use POSITION CONTROL to attach / detach implements to provide precise control of the hitch.

Select a level to detach and store the implement. Lower implement to ground by moving the position control lever to DOWN. If necessary, adjust the leveling crank on the right lift link to level the implement on ground.

Shut off the engine, securely lock the brakes and remove the main switch key from the tractor.

Disconnect the implement PTO driveshaft (as applicable). Detach the top link from the implement.

**NOTE:** Lengthening or shortening of the top link may be required to permit disconnection from the implement.

**FIG. 5-39:** Disconnect the lower links from the implement pins. Make sure the lower links are connected together with the spring (1) to prevent tyre interference. Take position in the operator’s seat, start the engine and drive the tractor clear of the implement.

External Auxiliary Hydraulics

Auxiliary hydraulics can be installed to operate implements requiring external hydraulic source for operation.

**FIG. 5-40:** Control lever, 1, controls implement raising/lowering when first set of remote couplers are used. Control lever, 2, controls implement when second set of remote couplers are used.

Control lever(s) are spring-loaded to center neutral position, from normal raise or lower positions.

**FIG. 5-41:** Remote couplers are located at rear of Tractor, above three-point hitch, or, under right step (depending on kit installed). Rear location shown.

Coupler set, 1, corresponds with control lever, 1, coupler set, 2, with control lever, 2.

Implement hoses must be connected to each coupler set so when respective control lever is pulled backward, implement raises and, when pushed forward, implement lowers. Male coupler tips (on implement hoses) must be compatible with Tractor couplers and must also be inserted fully and locked into Tractor couplers to operate correctly.
CAUTION: Always lower implement to ground, shut off engine and relieve system pressure (by operating control levers with engine off) before connecting or disconnecting implement hoses.

CAUTION: Make sure all hydraulic hoses, couplers and cylinders are in good condition before use. Damaged equipment is dangerous.

FIG. 5-42: Most implements require double-acting hydraulics. Each implement cylinder will have two hoses connected to it.

When single-acting service is required (cylinder with only one hose), the inner “A” coupler will be used and selector function, 1, must be turned to the left.

NOTE: For normal double-acting operation selector function must be turned to the right.

Roll Over Protect in Structure (ROPS)

Tractor is equipped with fold-down ROPS which can be folded down and the Tractor functionally used in that condition for low clearance situation such as orchards, vineyards, barns, and chicken houses, etc. Always raise ROPS in to the fully erect position at the earliest time.

ROPS must be maintained in this fully raised position at all times unless practical operation of the tractor dictates otherwise, (as described above).

How to Tilt ROPS

FIG. 5-43: Remove linchpin, (1), remove pin, (2), and tilt the ROPS rearward care fully.

CAUTION: Do not weld, drill, bend or straighten. Make sure all components are in correct working order to provide the intended protection.

Only original bolts, or equivalent replacements, must be used and tightened to correct torque value Make sure both “hinge” joints are properly secured.

To prevent PIN ASSY from being lost, insert the ring of wire onto knob and assemble it.
Center ROPS type

This tractor is equipped with center mounted roll-over protective structure (Center ROPS). Seat belt must be worn.

When the tractor is not being operated, the ROPS can be folded down if it will hit the roof of the garage where it is parked.

**FIG. 5-45:** After removing the lock pin, 1, and the pin, 2, the upper portion, 3, of ROPS can be folded down to the front.

**FIG. 5-46:** The upper portion, 3, of ROPS can be fixed to folded position by installing the lock pin, 1, and the pin, 2.

**WARNING:** Do not operate the tractor with the ROPS folded down. This may result in serious injury if the tractor rolls over.

**CAUTION:** The purpose is fixing wire, tighten up the bolt so that the spring parts of it is crushed.

To prevent PIN ASSY from being lost, bind the ring of wire by frame and rubber washer, and tighten up bolt (M8 X 16(SP)).
LUBRICATION & PERIODIC MAINTENANCE

SPECIFICATIONS & CAPACITIES

(Mechanical Transmission)

Engine Oil
Use engine oil of the appropriate SAE viscosity. Oil must meet or exceed; MIL-L-2104 C requirements, API Service "CD".

<table>
<thead>
<tr>
<th>Capacity (litres)</th>
<th>TM3215F</th>
<th>TM3245F</th>
<th>TM3265F</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM3215F</td>
<td>2.7</td>
<td>2.7</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Recommended Viscosity:
- 78°F (25°C) and Above: SAE 30W, 10W-30, SAE 30W, 10W-30, SAE 30W, 10W-30
- Below 32°F (0°C): SAE 10W, 10W-30, SAE 10W, 10W-30, SAE 30W, 10W-30

Recommended Change Intervals:
- Initial Oil and Filter Change: 50 hours
- Oil and Filter Change, Thereafter: Every 150 hours

Engine Coolant
Freezing Protection (Original factory Fill): -34°C (-30°F)
Recommended Coolant: 50/50 mixture ethylene glycol and water
System Capacity (litres): 4.5

Fuel Tank
Capacity (litres): 28.0
Fuel recommended:
- Above 4°C (39°F): No.2 or No.2-D
- Below 4°C (39°F): No.1 or No.1-D

Transmission & Differential Housing (Including Hydraulic System)
Capacity (litres): 18.0
Recommended Lubricant: Shell DONAX TD

Recommended Change Interval:
- First 50 hours
- Every 200 hours thereafter

Front Axle
Capacity (Common Reservoir) (litres): 4.0
Recommended Change Lubricant: SAE 80 GL-4

Grease Fittings
Greasing Interval (All Fittings): Every 50 hours

NOTE: Change intervals stated above are for normal usage. Due to adverse operating conditions that may be experienced (extremely dusty or muddy), change intervals may need to be more frequent.
(Hydrostatic Transmission)

**Engine Oil**

Use engine oil of the appropriate SAE viscosity. Oil must meet or exceed; MIL-L-2104 C requirements, API Service “CD”.

<table>
<thead>
<tr>
<th>Capacity (litres)</th>
<th>TM3215FH</th>
<th>TM3245FH</th>
<th>TM3265FH</th>
</tr>
</thead>
<tbody>
<tr>
<td>78°F (25°C) and Above</td>
<td>SAE 30W, 10W-30</td>
<td>SAE 30W, 10W-30</td>
<td>SAE 30W, 10W-30</td>
</tr>
<tr>
<td>32-78°F (0-25°C)</td>
<td>SAE 20W, 10W-30</td>
<td>SAE 30W, 10W-30</td>
<td>SAE 30W, 10W-30</td>
</tr>
<tr>
<td>Below 32°F (0°C)</td>
<td>SAE 10W, 10W-30</td>
<td>SAE 30W, 10W-30</td>
<td>SAE 30W, 10W-30</td>
</tr>
</tbody>
</table>

**Recommended Change Intervals:**
- Initial Oil and Filter Change: 50 hours.
- Oil and Filter Change, Thereafter: Every 150 hours.

**Engine Coolant**

Freezing Protection (Original factory Fill): -34°C (-30°F)

Recommended Coolant: 50/50 mixture ethylene glycol and water

**System Capacity (litres):** 4.5

**Fuel Tank**

Capacity (litres): 28

Fuel recommended:
- Above 4°C (39°F): No.2 or No.2-D
- Below 4°C (39°F): No.1 or No.1-D

**Transmission & Differential Housing (Including Hydraulic System)**

Capacity (litres):
- FHSM (with Mid-mount PTO and 18.0
- Recommended Lubricant: Shell DONAX TD or equivalent
- Recommended Change Interval: First 50 hours, then every 200 hours thereafter

**Front Axle**

Capacity (Common Reservoir) (litres): 4.0

Recommended Change Lubricant: SAE 80 GL-4

Recommended Change Interval: Every 300 hours

**Grease Fittings**

Greasing Interval (All Fittings): Every 50 hours

Recommended Grease: Lithium base grease No.2

**NOTE:** Change intervals stated above are for normal usage. Due to adverse operating conditions (extremely dusty or muddy), change intervals may need to be more frequent.
(Mechanical Transmission)

FIGS. 6-1 & 6-2: General layout of lubrication, fill and drain locations on the tractor:

<table>
<thead>
<tr>
<th>Filling position</th>
<th>Engine</th>
<th>Radiator</th>
<th>Transmission case</th>
<th>Front axle</th>
<th>Fuel tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>ISEKI diesel engine oil API: more than &quot;CC&quot; grade</td>
<td>Antifreeze (LLC) 50%</td>
<td>ISEKI U.T.H. oil</td>
<td>ISEKI Multi Deluxe oil #80</td>
<td>Light diesel oil</td>
</tr>
<tr>
<td>Capacity (liter)</td>
<td>3.1</td>
<td>5</td>
<td>18</td>
<td>4</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Filling position</th>
<th>Clutch pedal</th>
<th>Brake pedal</th>
<th>Parking brake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>Grease</td>
<td>Grease</td>
<td>Grease</td>
</tr>
<tr>
<td>Capacity (liter )</td>
<td>Proper quantity</td>
<td>Proper quantity</td>
<td>Proper quantity</td>
</tr>
</tbody>
</table>
## Filling diagram

<table>
<thead>
<tr>
<th>Filling position</th>
<th>Engine</th>
<th>Radiator</th>
<th>Transmission case</th>
<th>Front axle</th>
<th>Fuel tank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oil</strong></td>
<td>ISEKI diesel engine oil API: more than “CC” grade</td>
<td>Antifreeze (LLC) 50%</td>
<td>ISEKI U.T.H. oil</td>
<td>ISEKI malti deluxe oil #80</td>
<td>Light diesel oil</td>
</tr>
<tr>
<td>Capacity (liter)</td>
<td>2.7</td>
<td>4.5</td>
<td>18</td>
<td>4</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Filling position</th>
<th>Clutch pedal</th>
<th>Brake pedal</th>
<th>Parking brake</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oil</strong></td>
<td>Grease</td>
<td>Grease</td>
<td>Grease</td>
</tr>
<tr>
<td>Capacity (liter)</td>
<td>Proper quantity</td>
<td>Proper quantity</td>
<td>Proper quantity</td>
</tr>
</tbody>
</table>
FIGS. 6-3 & 6-4: General layout of lubrication, fill and drain locations on the tractor:

### Filling diagram

**TM3265FH**

- ● Greasing point
- ○ Oil filler
- ◊ Oil drain
- ▲ Level point
- ○ Radiator filler
- △ Radiator drain

#### FIG. 6-3

<table>
<thead>
<tr>
<th>Filling position</th>
<th>Engine</th>
<th>Radiator</th>
<th>Transmission case</th>
<th>Front axle</th>
<th>Fuel tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>ISEKI diesel engine oil API: more than “CC” grade</td>
<td>Antifreeze (LLC) 50%</td>
<td>ISEKI U.T.H. oil</td>
<td>ISEKI multi deluxe oil #80</td>
<td>Light diesel oil</td>
</tr>
<tr>
<td>Capacity (liter)</td>
<td>3.1</td>
<td>5</td>
<td>18</td>
<td>4</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Filling position</th>
<th>Clutch pedal</th>
<th>Brake pedal</th>
<th>Parking brake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>Grease</td>
<td>Grease</td>
<td>Grease</td>
</tr>
<tr>
<td>Capacity (liter)</td>
<td>Proper quantity</td>
<td>Proper quantity</td>
<td>Proper quantity</td>
</tr>
</tbody>
</table>
LUBRICATION & PERIODIC MAINTENANCE

TM3245FH
TM3215FH

- Greasing point
- Oil filler
- Oil drain
- Level point
- Radiator filler
- Radiator drain

Filling diagram

<table>
<thead>
<tr>
<th>Filling position</th>
<th>Engine</th>
<th>Radiator</th>
<th>Transmission case</th>
<th>Front axle</th>
<th>Fuel tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>ISEKI diesel engine oil API: more than “CC” grade</td>
<td>Antifreeze (LLC) 50%</td>
<td>ISEKI U.T.H. oil</td>
<td>ISEKI multi deluxe oil #80</td>
<td>Light diesel oil</td>
</tr>
<tr>
<td>Capacity (liter)</td>
<td>2.7</td>
<td>4.5</td>
<td>18</td>
<td>4</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Filling position</th>
<th>Clutch pedal</th>
<th>Brake pedal</th>
<th>Parking brake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>Grease</td>
<td>Grease</td>
<td>Grease</td>
</tr>
<tr>
<td>Capacity (liter)</td>
<td>Proper quantity</td>
<td>Proper quantity</td>
<td>Proper quantity</td>
</tr>
</tbody>
</table>
## Periodic Inspection and Maintenance Table

○ : Inspect, replenish or adjust  ● : Replace  △ : Clean or wash  ★ : Replacement or servicing at authorized service facility recommended.

<table>
<thead>
<tr>
<th>Remarks</th>
<th>Before Ope.</th>
<th>100 Hr</th>
<th>200 Hr</th>
<th>300 Hr</th>
<th>400 Hr</th>
<th>500 Hr</th>
<th>600 Hr</th>
<th>1/ Month</th>
<th>1/2 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine oil</td>
<td>Replace every 100 Hr.</td>
<td>○ ● ● ● ● ● ● ●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine oil filter</td>
<td>Replace every 200 Hr.</td>
<td>● ● ● ● ● ● ●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air cleaner element</td>
<td>Wash every 100 Hr. Replace every 600 Hr. or once/year.</td>
<td>○ △ △ △ △ △ ● ●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserve tank coolant/level</td>
<td>Wash every 100 Hr. Replace every 600 Hr. or once/2 years.</td>
<td>○ ○ ○ ○ ○ ○ ○ ● ●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiator</td>
<td>△ Flush once/2 years.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiator hose</td>
<td>Inspect every 200 Hr. Replace once/2 years.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel filter</td>
<td>Wash every 100 Hr. Replace every 400 Hr.</td>
<td>○ △ △ △ △ ● △ △</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel pipe hose</td>
<td>Inspect every 100 Hr. Replace once/2 years.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fan belt</td>
<td>Inspect every 100 Hr.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery fluid level</td>
<td>Check every 100 Hr. or once/1 year.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine valve clearance</td>
<td>Inspect every 600 Hr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission oil</td>
<td>Replace every 200 Hr.</td>
<td>○ ● ● ● ● ● ● ●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission oil filter</td>
<td>Replace every 200 Hr.</td>
<td>● ● ● ● ● ● ●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front axle oil</td>
<td>Inspect every 200 Hr. Replace every 600 Hr.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draining of clutch chamber</td>
<td>Inspect every 100 Hr.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clutch pedal play</td>
<td>Inspect and adjust every 100 Hr.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brake pedal play</td>
<td>Inspect and adjust every 200 Hr.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toe-in adjustment</td>
<td>Inspect and adjust every 200 Hr.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tightening of tie-rod ends</td>
<td>Inspect and adjust every 200 Hr.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front axle front/rear play</td>
<td>Inspect every 600 Hr.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### LUBRICATION & PERIODIC MAINTENANCE

- ○: Inspect, replenish or adjust
- ●: Replace
- △: Clean or wash
- ★: Replacement or servicing at authorized service facility recommended.

<table>
<thead>
<tr>
<th></th>
<th>Before op.</th>
<th>First Insp.</th>
<th>100 Hr</th>
<th>200 Hr</th>
<th>300 Hr</th>
<th>400 Hr</th>
<th>500 Hr</th>
<th>600 Hr</th>
<th>1 / Month</th>
<th>1 / Year</th>
<th>1 / 2 years</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Tire air pressure</td>
<td>○  ○  ○  ○  ○  ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inspect/add air every 200 Hr.</td>
</tr>
<tr>
<td>22</td>
<td>Tighten wheel Nuts</td>
<td>○  ○  ○  ○  ○  ○  ○  ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inspect every 100 Hr.</td>
</tr>
<tr>
<td>23</td>
<td>Electrical wiring</td>
<td>○  ○  ○  ○  ○  ○  ○  ○  ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inspect once/year. Replace once/2 years. (recommended)</td>
</tr>
<tr>
<td>24</td>
<td>Power steering hose</td>
<td>○  ○  ○  ○  ○  ○  ○  ○  ○  ○  ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inspect every 100 Hr. Replace once/2 years.</td>
</tr>
<tr>
<td>25</td>
<td>Replenish grease</td>
<td>○  ○  ○  ○  ○  ○  ○  ○  ○  ○  ○  ○</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Grease before/after operation.</td>
</tr>
</tbody>
</table>
LUBRICATION DETAILS

Grease Fittings

Lubricate all grease fittings (refer to Fig. 6-1,6-2,6-3 & 6-4) every 50 hours of operation using No.2 multipurpose lithiumbase grease. Clean the grease gun and fittings before and after greasing to prevent contamination from dirt.

NOTE: When operating in muddy or extremely wet conditions, daily lubrication of fittings is recommended.

SERVICE ACCESS

CAUTION: Shut off engine before servicing Tractor. Engine hood side panels and front grille must be installed and secured prior to operating unit.

To access radiator, battery and engine components, top of engine bonnet can be opened, both hood side panels and front grill can be easily removed.

FIGS. 6-5 & 6-6: To open; turn locking knob, 1, one-quarter turn clockwise on top of engine bonnet, pull upward the bonnet and lock it by retaining stay, 2.

Reinstall in reverse order, engine bonnet will be necessary to be pulled and closed, 1, and then turn one-quarter turn counterclockwise to secure.

FIGS. 6-7,6-8 & 6-9:
To remove side panels; Pull out the upper portion of side panel and remove the side panel as lifting up to upper direction.

Hook the lower front and rear parts of side panel from top, and fix with upper front and rear two hookes as pushing side panel to inward.
FIGS. 6-10 & 6-11:
To remove front grill; Pull the upper portion of grill to front direction and lift up and remove the front grill.

Never fail to insert the projection under the grill into the hole of battery base, and fix with the hook locating upper left and right.

CAUTION: Take off the left and right connector of head lamp before removing the grill.
Engine Oil & Filter

Engine oil and the filter should be changed after the first 50 hours of operation and then every 100 hours thereafter.

**FIG. 6-12:** To Check Engine Oil Level-The tractor must be parked on level ground with the engine off. Pull out the dipstick (1) and check that oil level is between upper limit F and lower limit L on the dipstick. Wipe off the dipstick, momentarily reinstall it in the engine and check oil level again. Add oil through the dipstick / filter opening as required.

⚠️ **DANGER:** Muffler tail pipe is extremely hot just after operation, so take care not to touch it to avoid burns. Be sure to wear gloves before checking engine oil level.

**FIG. 6-13:** To add oil, open the engine hood and remove the filler cap. Add oil using a funnel to prevent oil from spilling.

**NOTE:** Add oil slowly to assist in venting air from the crankcase.

**FIG. 6-14:** To Change Engine Oil-Operate the tractor until oil is adequately warmed. Remove the drain plug (1) from the engine and allow all oil to drain out. Reinstall the drain plug and fill the engine crankcase to the upper limit on the dipstick.
**FIG. 6-15:** To Replace Engine Oil Filter—Unscrew the element (1) from the engine and discard. Make sure the original filter gasket has been removed. Lubricate the new gasket on the replacement element with clean engine oil. Screw on the new element until the gasket contacts the adapter and then tighten element by further 2/3 turn. Clean spilled oil and refill the crankcase. Start the engine, check for leaks and replenish oil level as required.

**Transmission Oil & Filters**

Transmission oil lubricates the transmission, centre housing, and rear axles and also serves as hydraulic fluid. Transmission oil and the filter should be changed after the first 50 hours of operation and then every 200 hours thereafter.

**FIGS. 6-16 & 6-17:** To Check Transmission Oil Level—Park the tractor on level ground and remove the dipstick (1). Oil level should be indicated between the upper limit A and the end of dipstick B. Oil level is replenished, as necessary, by removing the filler plug (2) and adding oil through the filler opening.

**NOTE:** Adding oil to the transmission will also maintain correct oil level in the centre housing and rear axles.
FIG. 6-18: To Replace Transmission Oil—Remove the drain plug (1) back of the mid PTO gearbox, and the final drain plugs (2) on each axle. Completely drain oil from the system.

**IMPORTANT:** Completely lower the three-point hitch prior to draining transmission oil.
When completely drained replace and tighten all drain plugs. Refill with oil as outlined above.

To Clean Hydraulic Oil Filter—Clean the hydraulic oil filter while oil is removed. Loosen bolt (3) and draw out filter (1).
When assembling, apply grease on O-ring (2) so as not to damage.

---

Caution: After transmission oil has been replaced or, before the tractor is put in motion after a long term of storage, or when the hydraulic system does not function properly, bleed air from the hydraulic oil circuit as follows:

---

**FIG. 6-19:** To bleed air from the hydraulic system—Loosen plug (1) by one turn or one turn and a half. NEVER remove the plug, or oil will be ejected through the plug hole during air-bleeding operation. Start the engine and operate it at full throttle. Overflowing of oil through the plug shows air-bleeding has been completed. Stop the engine and retighten the plug.

**NOTE:** When no oil overflows through the plug, try loosening the plug by another half turn.
Hydrostatic Cartridge Oil Filter Replacement

The hydrostatic cartridge oil filter is located under the left step.

**FIG. 6-20:** Always replace the hydraulic oil filter while oil is removed. Carefully unscrew the oil filter (1) from its transmission. Use of a filter wrench may be necessary. Clean the filter adapter and lubricate the O-ring on the replacement filter adapter with clean hydraulic oil. Install the new filter until O-ring contacts the transmission and tighten additional 2/3 turn by hand. Do not use a filter wrench to install the filter.

Replace the cartridge after the first 50 hours, and then every 200 hours.

Front Axle Oil

Front drive axle has a common oil level for front differential housing and each wheel reduction unit. Oil level should be checked every 50 hours of tractor operation and replaced after every 300 hours.

**FIG. 6-21:** To Check Oil Level-Park the tractor on level ground and then remove the oil level plug (1). Oil should be level with or slightly below the level plug opening. Remove the fill plug (2) and add oil until oil is expressed from the level plug opening. Replace the level plug and fill plug.

To Change Oil-Remove the drain plug (3) from both wheel reduction units. When all oil has drained out, replace the drain plugs and fill the housing to the level plug opening. Replace the level plug and filling plug.
COOLING SYSTEM

CAUTION: DO NOT remove the radiator cap when the engine is hot. After engine has cooled down, rotate the cap slowly to release pressure. Then the cap can be safety removed.

FIG. 6-22: Cooling system is filled at factory with anti-freeze solution to protect the engine and radiator to -34°C (-30°F). Cooling level should be maintained between upper level and under level of reserve tank. Check coolant annually as a precaution against freezing.

NOTE: After adding coolant, start the engine and let it run until thoroughly warmed so coolant is mixed.

Periodically check the condition of hoses, belt and champs and tighten or replace as necessary. Keep the radiator, radiator screen and hood screens clean to permit maximum cooling.

IMPORTANT: Use care when cleaning the radiator to prevent cooling fin damage.

FIG. 6-23: Drain cock (2) will drain coolant from the cylinder block and radiator. The drain cock is located on the right side of the engine. Coolant should be replaced if it becomes contaminated with rust or sludge. Loosening the radiator cap will assist draining.

NOTE: Before adding new coolant, flush inside of the radiator and engine block with clean water.

The radiator and engine must be drained if freezing temperatures are expected and the cooling system is not filled with sufficient to provide adequate protection from freezing.

FIG. 6-24: Correct fan belt tension helps to insure adequate coolant flow through the cylinder block and radiator. The belt is correctly tensioned when belt deflection is approximately 12 mm (1/2”) as shown at “x” when thump pressure is exerted at the centre of belt span.

CAUTION: Due to muffler position, allow it to cool before checking or adjusting fan belt tension.
FIG. 6-25: To adjust belt tension, loosen the alternator pivot bolt and nut (1) and tensioning bracket bolt (2). Pull outward on top of the alternator to correctly tension belt and tighten the bolt (2) first and then tighten the pivot bolt (1).

IMPORTANT: Do not pry against the alternator housing or pulley. Carefully pry against the alternator mounting flange to prevent damage.

ENGINE AIR CLEANER

IMPORTANT: Never operate the engine with the air filters removed.

FIG. 6-26: The engine air cleaner is located above the engine. To gain access remove the right side panel. The dust ejector (1) should be squeezed daily to open it and allow dust to drop out. This will reduce amount of material which collects on the main filter. To service the main filter, release the retaining band (2) over the air cleaner and pull the air cleaner inlet tube to rear to release it from the retaining hooks, then turn the air cleaner out for servicing.

FIG. 6-27: Release clips and uncover. Remove the element. Examine the element and seals for damage and brittleness. If the element is damaged in any way it must be replaced.

NOTE: Fit the seal ring of the filter correctly when reinstalling.
FIG. 6-28: Element may be cleaned (if in serviceable condition) using following procedures:

- Using compressed air not to exceed 200kPa (30psi) from the inside of the element, remove loose dirt, grass, chaff, etc. Be careful not to damage element pleats with air flow.
- If the element is coated with oil or soot:
  1. Prepare solution of warm water and non-foaming detergent.
  2. Soak the element for thirty minutes.
  3. Agitate the element in solution until oil and soot are loosened.
  4. Rinse the element until rinse water is clear.
  5. Allow the element to completely dry. Do not dry by using compressed air or heat.
- After cleaning (or washing) the element examine for pin holes, punctures, or tears. If the element paper, canister or seal show any signs of physical damage, the element must be replaced.

NOTE: Replaced an element which has already been washed five times.

FUEL SYSTEM

Use only clean diesel fuel of correct grade. Introduction of water or dirt into the fuel tank or other part of the fuel system can cause repeated plugging of the fuel filter and possible injection pump and injector damage.

IMPORTANT: Do not tamper with the injection pump of injector adjustments as doing so may render the engine and/or tractor warranty void and may cause severe engine damage. Refer to a local ISEKI Dealer.

Fuel Filter

FIG. 6-29: Fuel filter assembly (1) is located at the right side of the engine, and is used to strain impurities from fuel before fuel reaches the injection pump. Check the filter bowl for accumulation of sediment or water and clean as required.
Fuel filter should be replaced by ASSY. It is impossible to disassemble and maintenance.

Air-bleeding Procedure

Air bleeding is not necessary.

NOTE: Normally, further air-bleeding is not required due to electric fuel pump operating when starter switch in instrument panel is ON. If engine will not start after several attempts, check fuel pump fuses (see Electrical System) and then proceed as necessary.

CAUTION: Fuel emitted from loosened injection lines is under high pressure. Keep hands and face away when the engine is cranked. Clean all spilled fuel following air-bleeding procedure(s).

Throttle Lever

FIG. 6-31: The throttle lever should remain in the position selected by the operator. Through normal use, friction against the lever may decrease, causing the lever to move out of the selected position. Turn the adjusting nut (1) as required to retain the throttle lever in the position selected.

NOTE: Throttle lever friction adjustment nut is reached by removing the steering column cover, and instrument panel.

In case lining is exchanged to parts, apply grease and assemble is.
ELECTRICAL SYSTEM

Battery

FIG. 6-32: Battery (1) is located under the engine hood in front of the radiator. If the battery requires only minor servicing or charging, it is recommended that the front grille be removed to reach the battery. When the battery is removed, electrolyte inspection or cable cleaning is necessary, the front grille must be removed from the tractor. Keep top of the battery clean and ensure cable connections are clean and tight. Debris on the battery can cause discharge of the battery and be a possible source of fire.

CAUTION: Batteries produce explosive hydrogen when they have charged. Keep all sparks and open flames away from the battery. When necessary to disconnect battery cables, always disconnect the earthed (-) cable first to prevent short circuits. Batteries contain sulfuric acid electrolyte fluid. Wear eye and face protection. If electrolyte comes in contact with skin or clothes, wash immediately. Contact a physician immediately if electrolyte is ingested or gets in eyes.

FIG. 6-33: Tractors are shipped with the battery installed. If battery replacement should become necessary, disconnect the negative (-) cable (1) first and then remove the positive (+) cable (2). Loosen and remove the battery securing clamp and carefully remove the battery from the tractor.

When installing the battery, the cable (2) connected to the starter solenoid should be connected to the positive (+) battery terminal first then the cable (1) earthed to the tractor frame can be connected to the negative (-) battery terminal.

NOTE: Make sure the replacement battery is of identical size and equal capacity.

IMPORTANT: Do not reverse battery cable connections as severe electrical system damage will result.
FIG. 6-34: Water need not be added to battery, the battery is of maintenance-free type.

If the battery performance be questioned, the battery should be removed and recharged from an external source following battery charger instructions. Repeated battery charging may be due to a defect in Tractor charging system and/or a defective battery.

**NOTE:** When charging battery from an external source, battery temperature must not exceed 125°F (54°C) if overheating occurs, charge rate must be reduced or halted.

To handle the battery

1. Water need not to be added to battery as battery is maintenance-free type.
2. Never close or cover vent of battery.
3. Battery indicator with colors shows battery condition. When checking battery, set machine in horizontal place and look indicator from top of battery.
4. If indicator shows clear or light green color, tap battery body to remove bubble inside indicator. Then check battery indicator.

![Battery](image)

**WARNING:**
Never disassemble battery.
Batteries contain sulfuric acid electrolyte (fluid). Keep away from sparks or flames, which could cause explosion.
When charging battery from an external source;
Set charging voltage below 16v.
Set charging ampere below 1/10 (one tenth) of battery capacity.
When connecting and disconnecting battery cables, turn off power of battery charger.
If you have any question about battery, consult your dealer.

<table>
<thead>
<tr>
<th>Indicator Color</th>
<th>Condition</th>
<th>Countermeasure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Charged</td>
<td>Usable</td>
</tr>
<tr>
<td>Black</td>
<td>Discharged</td>
<td>Need to charge</td>
</tr>
<tr>
<td>Clear</td>
<td>Low Electrolyte</td>
<td>Need to replace</td>
</tr>
</tbody>
</table>

Starting Switches

This Tractor is equipped with a neutral-start system consisting of neutral switches and a relay. To start Tractor, ALL the following is required:

**(Mechanical Transmission)**
- Depress clutch pedal.
- Gear shift lever must be in neutral position.
- PTO control lever must be in neutral (OFF) position.
- Mid PTO control lever must be in neutral (OFF) position.

**(Hydrostatic Transmission)**
- Range shift lever must be in neutral position.
- PTO control switch must be off position.
Wiring / Fuse Arrangement

**CAUTION:** Keep all wiring connections clean and tight. Make sure wiring is correctly secured to prevent damage.

**CAUTION:** DO NOT alter wiring by adding “home-made” extensions or replacements. Doing so can eliminate fuse protection and/or eliminate safety features of the system.

**CAUTION:** The tractor is equipped with negative (-) ground system. Tractor metal parts provide many electrical connections. For this reason, all positive (+) circuits must be insulated to prevent “earthing” or short circuits and prevent possible fire.

**CAUTION:** DO NOT replace any fuse with a fuse of higher amperage rating. DO NOT use wire (or foil) to by-pass fuse protection. Fire can result. If fuses blow repeatedly, examine the electrical system for “earthed” or “shorted” circuits.

**FIG. 6-35:** General layout and location of electrical system components and fuses:

- **Main Fuse Box, A** - Located inside right hand fan cover.

  Slow blow fuse box is in left fan cover.

  **IMPORTANT:** Slow blow fuses are of specific Use only authorized parts for replacements.

- **7-pin Trailer Socket D**

**NOTE:** A special fuse is used-use only genuine ISEKI parts.

**WIRING DIAGRAM**

Please refer to the folder bound at the end of this manual.
CLUTCH FREE-PLAY ADJUSTMENT

Mechanical Transmission

FIG. 6-36 & 6-37: Check clutch pedal free-play regularly and adjust as necessary. Correct clutch pedal free-play A is 20 to 30 mm (7/8") when measured at the end of the pedal (1) as shown.

NOTE: Through use, clutch free-play will be reduced.

IMPORTANT: Correct free-play must be maintained to reduce wear on the clutch and release bearing, and allow complete disengagement when the pedal is depressed.

To adjust clutch pedal free-play, locate the linkage under the left foot step, and loosen the lock nut (2). Adjust the turnbuckle (3) on the linkage until free-play is correct. Lengthening the linkage will increase free-play, shortening the linkage will reduce free-play. Secure by retightening the lock nuts.
BRAKE FREE-PLAY ADJUSTMENT

FIG. 6-38 & 6-39: Unlatch the pedals and check free-play of each brake pedal. Correct free-play A of each individual brake pedal is 20 to 30 mm.

NOTE:  
- Through use, free-play will increase and brake balance will be affected. Adjust and balance brakes before free-play is excessive.  
- HST models do not have individual wheel brakes.

FIG. 6-40: Loosen the lock nut (1) (right-hand thread) and lock nut (2) (left-hand thread). Adjust the rod using weld nut (3), so free-play is correct for respective brake pedal. Repeat procedure for other brake so free-play in pedals is equal. Secure lock nuts against clevis. When adjustment is complete, latch the pedals together and operate the tractor at low speed. Depress the pedals. If the tractor has tendency to “pull” to one side, slight readjustment of one brake is required. Make sure the lock nuts are secured when brake adjustment is complete.
FIG. 6-41: After the adjustment of brake pedal, adjust the parking lever. Adjust the “A” and “B” of cable adjustment point and adjust as brake is completely engaged with the parking lever 5 or 6 notch.

CAUTION: Brakes must be adjusted evenly to permit equal braking action at both rear wheels when brake pedals are latched together.

After the adjustment of brake pedal and parking brake

① The play of brake pedal is 20 to 30mm.

② Brake is completely engaged with the parking lever 5 or 6 notch.

③ Left and right brakes start to be engaged at the same time.

④ Make sure that there is no tire dragging when the parking lever is released without depressing the brake pedal.
WHEELS & TYRES

Examine wheels and tyres periodically for correct inflation pressures, tight wheel bolts, and any physical damage that may be a detriment to tractor operation and operator safety. Correct condition prior to tractor operation.

Tyre Inflation Pressures

FIG. 6-43: Maintaining correct tyre pressure will help ensure tyre life. Never exceed the maximum inflation pressure specified on the tyre. If tyres have deep scratches, cuts or punctures, the respective tyre should be repaired or replaced by qualified personnel as soon as possible.

IMPORTANT: If necessary to replace any tyre (s), ensure original tyre size is used. This is particularly true on 4-WD models to ensure correct amount of front axle over-speed (or “lead”) is maintained.

Wheel Bolt Torque

Periodically check all wheel bolt torques.
Correct bolt torques:
- Front Wheel Bolts 90 Nm (66 ft-lbs)
- Rear Wheel Bolts 220 Nm (162 ft-lbs)

CAUTION: Correct wheel bolt torque must be maintained. Installation of front or mid-mounted implements (ex: loaders, mowers) impose increased loads and require frequent checking of wheel bolts.

Front Wheel Spacing

Tread widths may be varied by using the following methods as applicable. Tread widths are measured tyre centre to tyre centre as close to the ground as possible.

NOTE: Make certain desired setting is compatible with implements to be used to prevent clearance and interference problems.

FIG. 6-44: Tyre Tread Widths

<table>
<thead>
<tr>
<th></th>
<th>AGRICULTURAL</th>
<th>TURF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>TM3215</td>
<td>815 mm</td>
<td>1000 mm</td>
</tr>
<tr>
<td>TM3245</td>
<td>815 mm</td>
<td>995 mm</td>
</tr>
<tr>
<td>TM3265</td>
<td>815 mm</td>
<td>995 mm</td>
</tr>
</tbody>
</table>

FIG. 6-44: Tyre Tread Widths

FIG. 6-43
Rear Wheel Spacing

To reverse the entire wheel and tyre assembly—Raise both rear tyres of the tractor. Remove the bolts securing both rear wheel assemblies to the rear axle hubs and switch wheel assemblies to opposite sides of the tractor.

**FIG. 6-45: Tyre Tread Widths**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRICULTURAL</td>
<td>855 mm</td>
<td>1000 mm</td>
<td>950 mm</td>
</tr>
<tr>
<td>TURF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM3215</td>
<td>855 mm</td>
<td>1000 mm</td>
<td>950 mm</td>
</tr>
<tr>
<td>TM3245</td>
<td>855 mm</td>
<td>1000 mm</td>
<td>945 mm</td>
</tr>
<tr>
<td>TM3265</td>
<td>855 mm</td>
<td>1000 mm</td>
<td>945 mm</td>
</tr>
</tbody>
</table>

**CAUTION:** Rear wheels are heavy. Use care when moving them. Make sure the tractor is blocked securely. Tighten all wheel bolts securely and recheck after short period of operation.

**NOTE:** Agricultural lug-tyre tyres must always be installed so when viewed from the rear, the “V” pattern of the tread points upward.

Steering Free-Play

**FIG. 6-46:** Steering system should be checked for excessive looseness as indicated by steering wheel free-play. Maximum free-play is approximately 30 to 60 mm (1-1/4” to 2-3/8”) when measured at the outside of steering wheel rim as shown at “X”. Excessive free-play can be caused by:

- Loose or worn ball joints
- Worn or damaged steering column shaft
- Worn or damaged power steering unit (if equipped)

**CAUTION:** Excessive steering free-play must be corrected before use. Contact your ISEKI dealer.
Front Axle End-Float

**FIG. 6-47:** Fore and aft play of the front axle (1) in its supports should be 0.1 to 0.3 mm (0.004-0.012”). End-float is measured with axle raised off the ground. Loosen the lock nut (2) and turn the adjusting bolt (3) as needed to achieve correct measurement. Tighten the lock nut.

**NOTE:** Excessive end-float will cause noise. This noise will be more pronounced when using 4WD.

CLUTCH HOUSING PLUG

**FIG. 6-48:** Pipe plug (1) should be removed from the bottom of the clutch housing once a year or when clutch slipping is apparent. Any oil leakage from the engine rear crankshaft seal and / or transmission input shaft will be indicated by oil draining through the hole. Contact your ISEKI dealer if oil leakage is evident.

TORQUE CHART

**FIG. 6-49:** All fasteners should be tightened in accordance with the torque chart unless a specific torque value is called out in relevant maintenance information.
STORAGE

If the tractor is to be stored for extended periods such as off-season non-use, certain measures should be taken for its preservation during such periods. These measures will vary according to geographical area and storage season.

1. Replace engine oil and filter. Operate at low idle five minutes to lubricate parts.
2. Lubricate all grease fittings and lightly oil control linkage pivots.
3. Detach implements.
4. Store the tractor in an enclosed area, if possible, for protection from weather.
5. Block up the tractor to remove weight from tyres and to protect tyres from oily or damp floor.

6. Raise and lock the three-point lift linkage in up position by turning the lowering rate control handle (1) fully clockwise.
7. Remove the battery and store in cool dry place.
8. If the tractor is stored during cold weather season insure that anti-freeze is adequate. Alternatively, the radiator and engine block may be drained.
9. Check with your diesel fuel supplier on the availability of a diesel fuel additive to place in the fuel system during storage period.
10. If the tractor cannot be placed in an enclosed area place it under some sort of cover and cover exhaust pipe to prevent entrance of rain or snow.

NOTE: This is to prevent clutch seizure during long periods of tractor storage.

At the end of storage period: Perform appropriate lubrication and maintenance before placing the tractor back in service. See “Lubrication and Maintenance” section.

- Conduct full prestart inspection. Make sure all controls operate correctly.
- Allow the engine to idle approximately 30 minutes. Check for leaks and repair as required.
## TROUBLESHOOTING

### Engine

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| Starter motor does not operate with key turned to START | • Shift lever not in neutral  
• PTO switch is "ON"  
• Broken safety switch  
• Discharged battery  
• Loose or dirty terminals  
• Broken main switch  
• Broken starter  
• PTO switch not in off. | Place lever in neutral  
Turn PTO switch to off  
Consult your Dealer  
Charge battery  
Clean and retighten securely  
Consult your Dealer  
Consult your Dealer  
Turn PTO switch to off |
| Starter motor operates but not at full speed | • Discharged battery  
• Loose or dirty terminals  
• Defective ground  
• Improper oil viscosity  
• Defective engine | Charge battery  
Clean and retighten securely  
Clean and tighten starter mounting  
Replace with oil of proper viscosity  
Consult your Dealer |
| Starter motor operates but engine does not start | • Electric fuel control not operating  
• Air in fuel system  
• Clogged fuel filter  
• Fuel is not being supplied  
• Incorrect preheating procedure  
• Defective engine | Consult your Dealer  
Air-bleed fuel system  
Clean filter  
Check fuel level, open fuel valve  
Increase use of glow plugs  
Consult your Dealer |
| Irregular engine running | • Air in fuel system  
• Clogged fuel filter  
• Clogged fuel injectors  
• Fuel-line is leaking air  
• Fuel injection pump timing  
• Defective engine | Air-bleed fuel system  
Clean filter  
Consult your Dealer  
Retighten clamps, replace defective pipes  
Consult your Dealer  
Consult your Dealer |
| When decelerated, engine stops | • Incorrect low idle setting  
• Malfunctioning fuel injection pump  
• Improper valve clearance  
• Defective fuel injectors | Consult your Dealer  
Consult your Dealer  
Consult your Dealer  
Consult your Dealer |
| Engine over-speeds | • Defective governor  
• Incorrect high speed setting | Consult your Dealer  
Consult your Dealer |
<p>| Engine over-speeds | • Engine oil is getting into combustion chambers | Consult your Dealer |</p>
<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| Engine stops unexpectedly during operation       | • Insufficient fuel supply  
• Defective fuel injectors  
• Defective fuel injection pump  
• Engine seizure due to low or poor oil  
• Electric fuel pump not operating | Top up fuel and air-bleed fuel system  
Consult your Dealer  
(If engine can be turned by pulling fan belt, fuel system is most probable causes)  
Replace fuse |
| Engine overheats                                  | • Insufficient coolant  
• Broken or loose fan belt  
• Clogged grille, radiator screens  
• Clogged radiator fins  
• Defective thermostat  
• Insufficient engine oil | Top up coolant  
Adjust belt tension or replace  
Clean  
Clean  
Replace  
Inspect oil level and replenish if necessary |
| Exhaust fumes are white                          | • Clogged air cleaner  
• High engine oil level  
• Insufficient fuel delivery  
• Cold-running engine | Clean or replace element(s)  
Inspect oil level and correct  
Consult your Dealer  
Allow to warm check thermostat |
| Exhaust fumes are too black                      | • Poor fuel  
• Excessive fuel delivery  
• Insufficient fuel injector pressure  
• Insufficient combustion air | Replace with better grade  
Consult your Dealer  
Consult your Dealer  
Check, clean or replace air filter |
| Poor engine output                               | • Seized fuel injectors and/or carbon deposit  
• Insufficient compression or leaking valves  
• Incorrect valves clearances  
• Incorrect fuel injection timing  
• Insufficient fuel supply  
• Clogged air cleaner | Consult your Dealer  
Consult your Dealer  
Consult your Dealer  
Consult your Dealer  
Consult your Dealer  
Clean or replace element(s) |
| Oil pressure monitor is lit during operation     | • Insufficient engine oil  
• Too low oil viscosity  
• Defective pressure switch  
• Clogged oil filter  
• Defective oil pump | Replenish  
Replace with oil of proper viscosity  
Replace  
Replace element cartridge  
Consult your Dealer |
| Charging monitor is lit during operation         | • Defective wiring short circuit, poor ground, etc.  
• Defective alternator  
• Defective regulator  
• Low electrolyte level or defective battery  
• Loose or damaged fan belt | Correct loose or dirty terminals,  
Consult your Dealer  
Consult your Dealer  
Correct electrolyte level or replace battery  
Adjust belt tension or replace |
### Clutch

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clutch slips</td>
<td>• Poor clutch pedal adjustment</td>
<td>Adjust free-play</td>
</tr>
<tr>
<td></td>
<td>• Worn or burnt clutch lining</td>
<td>Consult your Dealer</td>
</tr>
<tr>
<td></td>
<td>• Engine, transmission oil leak</td>
<td>Consult your Dealer</td>
</tr>
<tr>
<td>Clutch won’t disengage</td>
<td>• Poor pedal adjustment</td>
<td>Adjust free-play</td>
</tr>
<tr>
<td></td>
<td>• Seized clutch lining</td>
<td>Consult your Dealer</td>
</tr>
<tr>
<td></td>
<td>• Transmission shafts seized</td>
<td>Consult your Dealer</td>
</tr>
</tbody>
</table>

### Brakes

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brakes do not work well or not balanced with each other when applied</td>
<td>• Too much free play of pedals</td>
<td>Adjust free-play</td>
</tr>
<tr>
<td></td>
<td>• Worn or seized linings</td>
<td>Consult your Dealer</td>
</tr>
<tr>
<td></td>
<td>• Unequal pedal adjustment</td>
<td>Correct so both pedals are equal</td>
</tr>
</tbody>
</table>

### Hydraulic System

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient oil pressure</td>
<td>• Low engine speed</td>
<td>Increases speed</td>
</tr>
<tr>
<td></td>
<td>• Low transmission oil</td>
<td>Fill to specified level</td>
</tr>
<tr>
<td></td>
<td>• Intake piping is sucking air</td>
<td>Retighten clamps or replace cracked pipes</td>
</tr>
<tr>
<td></td>
<td>• Clogged oil filter (s)</td>
<td>and defective O-rings</td>
</tr>
<tr>
<td></td>
<td>• Defective hydraulic oil pump</td>
<td>Clean or replace</td>
</tr>
<tr>
<td></td>
<td>• Defective control valve</td>
<td>Consult your Dealer</td>
</tr>
<tr>
<td></td>
<td>• Broken cylinder</td>
<td>Consult your Dealer</td>
</tr>
<tr>
<td>Leaking piping</td>
<td>• Loose joints</td>
<td>Retighten</td>
</tr>
<tr>
<td></td>
<td>• Cracked pipes</td>
<td>Replace pipes, O-rings</td>
</tr>
<tr>
<td>With control lever in RAISE position, relief</td>
<td>• Poorly adjusted rod on position control lever</td>
<td>Correct rod adjustment</td>
</tr>
<tr>
<td>valve blows</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three-point hitch does not lower</td>
<td>• Locked lowering rate control handle</td>
<td>Turn counter clockwise to LOWERING</td>
</tr>
<tr>
<td></td>
<td>• Defective control valve</td>
<td>position</td>
</tr>
<tr>
<td></td>
<td>• Broken cylinder</td>
<td>Consult your Dealer</td>
</tr>
<tr>
<td></td>
<td>• Seized lift shaft bearing</td>
<td>Consult your Dealer</td>
</tr>
</tbody>
</table>

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### Steering System

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| Steering wheel is hard to turn or turns in one direction | • Poorly installed steering column  
• Air in steering hydraulic system  
• Clogged suction filter  
• Improper toe-in  
• Different from tyre inflation  
• Loose steering or ball joints  
• Defective steering units pump | Correct  
Air-bleed steering system  
Remove and clean  
Correct  
Inflate both tyres to same specified pressure  
Retighten or replace defective parts  
Consult your Dealer |
| Steering wheel has too much free-play | • Worn steering column  
• Loose ball joints  
• Defective steering unit | Consult your Dealer  
Retighten  
Consult your Dealer |

### Electrical System

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| Battery cannot be charged | • Blown fuse  
• Blown fusible link  
• Defective wiring  
• Loose or damaged fan belt  
• Defective battery corrosion, or electrolyte level  
• Defective alternator  
• Defective regulator | Check fuse and replace  
Check wiring and replace link  
Correct loose, dirty terminal, short circuit, poor ground, etc.  
Give belt proper tension or replace  
Correct loose terminal connection,  
Consult your Dealer  
Consult your Dealer |
| Head lamps are dim | • Discharged battery  
• Poor connections | Charge battery, check charging system  
Check ground points and terminals. Clean and tighten |
| Particular function will not operate | • Burnt bulb (as applicable)  
• Blown fuse  
• Blown fusible, link  
• Poor contact  
• Defective switch | Replace  
Check fuse and replace  
Check wiring and replace  
Inspect ground points and terminals. Clean if necessary  
Replace as required |
### SPECIFICATIONS

#### Mechanical transmission

<table>
<thead>
<tr>
<th>MODEL</th>
<th>TM3215F</th>
<th>TM3245F</th>
<th>TM3265F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VRA</td>
<td>M</td>
<td>VRA</td>
</tr>
<tr>
<td>Sub Models</td>
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<td></td>
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</tbody>
</table>

#### ENGINE:

<table>
<thead>
<tr>
<th>Make</th>
<th>ISEKI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>E3112-B36</td>
</tr>
<tr>
<td>Type</td>
<td>indirect injection, overhead valve</td>
</tr>
<tr>
<td>Displacement</td>
<td>1123cc</td>
</tr>
<tr>
<td>Number Of Cylinders</td>
<td>3</td>
</tr>
<tr>
<td>Bore</td>
<td>78.2mm</td>
</tr>
<tr>
<td>Stroke</td>
<td>78mm</td>
</tr>
<tr>
<td>Engine Horsepower (Net)</td>
<td>14.3kW (19.2HP) @2600rpm</td>
</tr>
<tr>
<td>PTO Horsepower (Estimate)</td>
<td>12.2kW(16.4HP)</td>
</tr>
<tr>
<td>Fring Crder</td>
<td>1-3-2</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>22.5 to 1</td>
</tr>
<tr>
<td>Low Idle Speed</td>
<td>1175-1225rpm</td>
</tr>
<tr>
<td>High Idle Speed</td>
<td>2650-2750rpm</td>
</tr>
<tr>
<td>Valve Clearance (Clod) Inake</td>
<td>0.25mm</td>
</tr>
<tr>
<td>Exhaust</td>
<td>0.25mm</td>
</tr>
</tbody>
</table>

#### TRANSMISSION:

<table>
<thead>
<tr>
<th>Type Primary</th>
<th>4 - speed constant mesh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>2 speeds sliding mesh</td>
</tr>
<tr>
<td>Mechanical Shuttle</td>
<td>Constant mesh, 89% reverse reduction</td>
</tr>
<tr>
<td>Gear Speeds</td>
<td>8 gears forward, 8 reverse</td>
</tr>
<tr>
<td>Clutch</td>
<td>Dry single disk</td>
</tr>
<tr>
<td>Brakes</td>
<td>Mechanically actuated sealed wet disk</td>
</tr>
</tbody>
</table>

#### POWER TAKE-OFF (PTO):

<table>
<thead>
<tr>
<th>Control</th>
<th>Lever</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Rear PTO: Shaft</th>
<th>Clockwise rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>35mm diameter, six spline</td>
</tr>
<tr>
<td>Engine Speed @engine rpm</td>
<td>540@2475rpm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mid PTO: Shaft</th>
<th>Clockwise rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>25.4mm diameter, fifteen spline</td>
</tr>
<tr>
<td>Engine Speed @engine rpm</td>
<td>2000@2461 rpm</td>
</tr>
</tbody>
</table>
### HYDRAULICS:

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering System Type</td>
<td>Hydrostatic</td>
</tr>
<tr>
<td>Pump</td>
<td>Separate engine-mounting gear pump</td>
</tr>
<tr>
<td>Output:</td>
<td>11.7 liter/min @2500rpm</td>
</tr>
<tr>
<td>Pressure</td>
<td>Relief valve setting 7848kPa (80kgf/cm²)</td>
</tr>
<tr>
<td>Main Hydraulic System: Pump</td>
<td>Engine-mounted pump</td>
</tr>
<tr>
<td>Output:</td>
<td>20.0 liter/min @2500rpm</td>
</tr>
<tr>
<td>Pressure</td>
<td>Relief valve setting 14715kPa (150kgf/cm²)</td>
</tr>
<tr>
<td>Rear Linkage: Type</td>
<td>Three-point hitch</td>
</tr>
<tr>
<td>Size</td>
<td>Category 1</td>
</tr>
<tr>
<td>Control</td>
<td>Operated by single position control lever</td>
</tr>
<tr>
<td>Lift Capacity measured at ball end</td>
<td>600 kg</td>
</tr>
<tr>
<td>measured at 24 inches</td>
<td>450 kg</td>
</tr>
</tbody>
</table>

### ELECTRICAL SYSTEM:

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Voltage</td>
<td>12 Volt, negative (-) ground</td>
</tr>
<tr>
<td>Battery cca @ 18degrees °C (0 F)</td>
<td>433 cca (55B24R)</td>
</tr>
<tr>
<td>Charging</td>
<td>40 amp alternator with internal regulator/rectifier</td>
</tr>
</tbody>
</table>

### CAPACITIES:

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Crankcase With Filter</td>
<td>2.7 liters</td>
</tr>
<tr>
<td>Transmission</td>
<td>18 liters</td>
</tr>
<tr>
<td>Fuel Tank</td>
<td>27 liters</td>
</tr>
<tr>
<td>Cooling System</td>
<td>4.5 liters</td>
</tr>
<tr>
<td>Front Drive Axle</td>
<td>4 liters</td>
</tr>
</tbody>
</table>

### TREAD WIDTH SETTING:

<table>
<thead>
<tr>
<th>Tires</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front tires</td>
<td></td>
</tr>
<tr>
<td>AG 6-12</td>
<td>816mm, 997mm</td>
</tr>
<tr>
<td>AG 6.00-12</td>
<td>814mm, 995mm</td>
</tr>
<tr>
<td>Turf 22X8.50-12</td>
<td>919mm</td>
</tr>
<tr>
<td>Turf 24X8.50-12</td>
<td>915mm</td>
</tr>
<tr>
<td>Rear tires</td>
<td></td>
</tr>
<tr>
<td>AG 9.5-16</td>
<td>856mm, 1000mm</td>
</tr>
<tr>
<td>AG 9.5-18</td>
<td>856mm, 1004mm</td>
</tr>
<tr>
<td>Turf 31X13.5-15</td>
<td>948mm</td>
</tr>
<tr>
<td>Turf 31.5/75D-15</td>
<td>944mm</td>
</tr>
</tbody>
</table>

### MAXIMUM AXLE LOADING:

<table>
<thead>
<tr>
<th>Axle</th>
<th>Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Axle</td>
<td>750kg</td>
</tr>
<tr>
<td>Rear Axle</td>
<td>850kg</td>
</tr>
</tbody>
</table>
## Hydrostatic transmission

<table>
<thead>
<tr>
<th>MODEL</th>
<th>TM3215FH</th>
<th>TM3245FH</th>
<th>TM3265FH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub Models</td>
<td>SMWR</td>
<td>SM</td>
<td>SMWR</td>
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</tbody>
</table>

### ENGINE:

<table>
<thead>
<tr>
<th>Make</th>
<th>ISEKI</th>
<th>ISEKI</th>
<th>ISEKI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>E3112-B35</td>
<td>E3112-B33</td>
<td>E3CD-B70</td>
</tr>
<tr>
<td>Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspiration</td>
<td>Nature</td>
<td>Nature</td>
<td>Nature</td>
</tr>
<tr>
<td>Displacement</td>
<td>1123cc</td>
<td>1498cc</td>
<td></td>
</tr>
<tr>
<td>Number Of Cylinders</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bore</td>
<td>78.2mm</td>
<td></td>
<td>87mm</td>
</tr>
<tr>
<td>Stroke</td>
<td>78mm</td>
<td></td>
<td>84mm</td>
</tr>
<tr>
<td>Engine Horsepower (Net)</td>
<td>14.3kW (19.2HP) @2600rpm</td>
<td>16.1kW (21.6HP) @2600rpm</td>
<td>18.7kW (25.1HP) @2600rpm</td>
</tr>
<tr>
<td>PTO Horsepower (Estimate)</td>
<td>11.4kW(15.3HP)</td>
<td>12.9kW(17.3HP)</td>
<td>15.0kW(20.1HP)</td>
</tr>
<tr>
<td>Fring Order</td>
<td>1-3-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>22.5 to 1</td>
<td>21.7 to 1</td>
<td></td>
</tr>
<tr>
<td>Low Idle Speed</td>
<td>1175-1225rpm</td>
<td>1175-1225rpm</td>
<td>1175-1225rpm</td>
</tr>
<tr>
<td>High Idle Speed</td>
<td>2650-2750rpm</td>
<td>2780-2880rpm</td>
<td>2810-2910rpm</td>
</tr>
<tr>
<td>Valve Clearance (Clod) Inake</td>
<td>0.25mm</td>
<td>0.35mm</td>
<td></td>
</tr>
<tr>
<td>Exhaust</td>
<td>0.25mm</td>
<td></td>
<td>0.35mm</td>
</tr>
<tr>
<td>Air Cleaner</td>
<td>Single dry element</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine Cooling</td>
<td>Liquid, forced circulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code Starting Aid</td>
<td>Glow plugs (3)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TRANSMISSION:

<table>
<thead>
<tr>
<th>Type</th>
<th>Primary Infinite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>3 speeds sliding mesh</td>
</tr>
<tr>
<td>Gear Speeds</td>
<td>3 gears forward, 3 reverse</td>
</tr>
<tr>
<td>Clutch</td>
<td>None</td>
</tr>
<tr>
<td>Brakes</td>
<td>Mechanically actuated sealed wet disk</td>
</tr>
</tbody>
</table>

### POWER TAKE-OFF (PTO):

| Type       | Independent, engine driven |
| Control    | Electro hydraulic control |
| Clutch     | Hydraulically engaged, multi-plate wet disc |
| Rear PTO: Shaft | Clockwise rotation |
| Output     | 35mm diameter, six spline |
| Engine Speed @engine rpm | 540@2475rpm |
| Mid PTO: Shaft | Clockwise rotation |
| Output     | 25.4mm diameter, fifteen spline |
| Engine Speed @engine rpm | 2000@2461 rpm, 2000@2461 rpm, 2000@2461 rpm |
## HYDRAULICS:

<table>
<thead>
<tr>
<th>Steering System Type</th>
<th>Hydrostatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump</td>
<td>Separate engine-mounting gear pump</td>
</tr>
<tr>
<td>Output:</td>
<td>11.7 liter/min @2500rpm</td>
</tr>
<tr>
<td></td>
<td>12.2 liter/min @2600rpm</td>
</tr>
<tr>
<td>Pressure</td>
<td>Relief valve setting 7848kPa (80kgf/cm²)</td>
</tr>
</tbody>
</table>

| Main Hydraulic System: Pump   | Engine-mounted pump            |
| Output:                       | 20.0 liter/min @2500rpm        |
|                               | 20.8 liter/min @2600rpm        |
| Pressure                      | Relief valve setting 14715kPa (150kgf/cm²) |

| Rear Linkage: Type            | Three-point hitch              |
| Size                          | Category 1                     |
| Control                       | Operated by single position control lever |

| Lift Capacity measured at ball end | 600 kg |
| Lift Capacity measured at 24 inches | 450 kg |

## ELECTRICAL SYSTEM:

<table>
<thead>
<tr>
<th>System Voltage</th>
<th>12 Volt, negative (-) ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery cca @ 18 degrees °C (0 F)</td>
<td>433 cca (55B24R) 582 cca (80D26R)</td>
</tr>
<tr>
<td>Charging</td>
<td>40 amp alternator with internal regulator/rectifier</td>
</tr>
</tbody>
</table>

## CAPACITIES:

<table>
<thead>
<tr>
<th>Engine Crankcase With Filter</th>
<th>2.7 liters</th>
<th>3.1 liters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission</td>
<td>18 liters</td>
<td></td>
</tr>
<tr>
<td>Fuel Tank</td>
<td>27 liters</td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>4.5 liters</td>
<td>5 liters</td>
</tr>
<tr>
<td>Front Drive Axle</td>
<td>4 liters</td>
<td></td>
</tr>
</tbody>
</table>

## TREAD WIDTH SETTING:

<table>
<thead>
<tr>
<th>Front tires</th>
<th>816mm, 997mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG 6-12</td>
<td>814mm, 995mm</td>
</tr>
<tr>
<td>AG 6.00-12</td>
<td>919mm</td>
</tr>
<tr>
<td>Turf 22X8.50-12</td>
<td>915mm</td>
</tr>
<tr>
<td>Rear tires</td>
<td>856mm, 1000mm</td>
</tr>
<tr>
<td>AG 9.5-16</td>
<td>856mm, 1004mm</td>
</tr>
<tr>
<td>AG 9.5-18</td>
<td>948mm</td>
</tr>
<tr>
<td>Turf 31X13.5-15</td>
<td>944mm</td>
</tr>
<tr>
<td>Turf 31.5/75D-15</td>
<td></td>
</tr>
</tbody>
</table>

## MAXIMUM AXLE LOADING:

| Front Axle                   | 750kg       |
| Rear Axle                    | 850kg       |

91
<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>F-MV</th>
<th>FH-SWW</th>
<th>F-MD</th>
<th>FH-SMD</th>
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</thead>
<tbody>
<tr>
<td>TM3215</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM3245</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM3265</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Model Details

**Type**

- **F-MV**
- **FH-SWW**
- **F-MD**
- **FH-SMD**

**Tire**

- **Agri**
- **Turf**

#### Model Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>TM3215</th>
<th>TM3245</th>
<th>TM3265</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> Height Over ROPS (mm)</td>
<td>2390</td>
<td>2390</td>
<td>2390</td>
</tr>
<tr>
<td><strong>B</strong> Minimum Width (mm)</td>
<td>1100</td>
<td>1295</td>
<td>1100</td>
</tr>
<tr>
<td><strong>C</strong> Overall Length (mm)</td>
<td>2865</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D</strong> Wheelbase (mm)</td>
<td></td>
<td>1560</td>
<td></td>
</tr>
<tr>
<td><strong>E</strong> Minimum Ground (mm)</td>
<td>280</td>
<td>250</td>
<td>310</td>
</tr>
</tbody>
</table>

#### Turning Radius without brake

- To the right: 5.0
- To the left: 4.8

#### Weight (without seat)

| Weight (kg) | 810 | 810 | 815 | 815 | 775 | 775 | 775 | 775 | 820 | 820 | 825 | 825 | 785 | 785 | 785 | 785 | 845 | 845 | 845 | 845 | 815 | 815 | 815 | 810 | 810 | 810 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| **A** Tire  | C   | C   | C   | C   | C   | C   | C   | B   | D   | D   | D   | D   | B   | D   | B   | D   | B   | D   | B   | D   | B   | D   |
| **B** Tire  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| **C** Tire  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

**Front**

- A: TY3215-1E 6-12-4PR
- B: TY3245-1E 6.00-12-4PR
- C: TY3215-2E 22X8.50-12-4PR
- D: TY3245-2E 24X8.50-12-4PR

**Rear**

- A: 9.5-16-4PR
- B: 9.5-18-6PR
- C: 31X13.5-15-4PR
- D: 315/75D-15-4PR
### Specifications

<table>
<thead>
<tr>
<th></th>
<th>TM3215</th>
<th>TM3245</th>
<th>TM3265</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>F-VA</td>
<td>F-VA</td>
<td>F-VA</td>
</tr>
<tr>
<td><strong>Tire</strong></td>
<td>Agri</td>
<td>Turf</td>
<td>Agri</td>
</tr>
<tr>
<td><strong>Height Over ROPS (mm)</strong></td>
<td>2010</td>
<td>2010</td>
<td>1980</td>
</tr>
<tr>
<td><strong>Minimum Width (mm)</strong></td>
<td>1100</td>
<td>1295</td>
<td>1100</td>
</tr>
<tr>
<td><strong>Overall Length (mm)</strong></td>
<td>2865</td>
<td>2880</td>
<td>2865</td>
</tr>
<tr>
<td><strong>Wheelbase (mm)</strong></td>
<td>1560</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minimum Ground (mm)</strong></td>
<td>245</td>
<td>215</td>
<td>245</td>
</tr>
<tr>
<td><strong>Turning Radius without brake (mm)</strong></td>
<td>To the right: 5.0 / To the left: 4.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Turning Radius without brake (mm)</strong></td>
<td>To the right: 4.5 / To the left: 4.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight (without seat) (kg)</strong></td>
<td>840</td>
<td>840</td>
<td>840</td>
</tr>
<tr>
<td><strong>Weight (with fuel, oil and coolant) (kg)</strong></td>
<td>A</td>
<td>C</td>
<td>A</td>
</tr>
<tr>
<td><strong>Front Tire</strong></td>
<td>TY3215-1E 6-12-4PR</td>
<td>9.5-16-4PR</td>
<td></td>
</tr>
<tr>
<td><strong>Rear Tire</strong></td>
<td>TY3245-1E 6.00-12-4PR</td>
<td>9.5-18-6PR</td>
<td></td>
</tr>
<tr>
<td><strong>C: TY3215-2E 22X8.50-12-4PR</strong></td>
<td>31X13.5-15-4PR</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D: TY3245-2E 24X8.50-12-4PR</strong></td>
<td>315/75D-15-4PR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ASSEMBLY & PRE-DELIVERY INSPECTION

IMPORTANT: Do not commence assembly of the tractor until reading these instructions completely and carefully.

NOTE: For certain lubrication, adjustments, etc., refer to appropriate section of this manual. All nuts, bolts, etc., on these tractors are in METRIC dimensions.

The tractor is shipped in an individual container. The tractor will be partially disassembled to make the container as compact as possible. Wheels, steering, top linkage, and some attaching hardware will be removed. Larger items will be fastened in the container and the remainder of items will be shipped in sundry boxes also in the container.

To assemble and pre-deliver the tractor, proceed as follows:

CAUTION: Be observant of components such as wheels that may be attached to, or held in position by container panels.

1. Remove the top and four sides from container.
   The easiest way to do this is to cut the corner posts and uprights down near the base of the crate with a circular saw. Then cut out rear 2x4 and cut tie straps. The top and sides of the crate can then be removed from the tractor.

2. Remove wheels and sundry boxes from the container.

3. Inspect the tractor for damage and any evidence of coolant, fuel or lubricant leaks.

4. Inspect and remove all hardware securing the tractor to the lower crate panel.

5. Install the handle on the right hand fender if removed.

6. Front Wheels-
   a. Carefully raise and block the front of the tractor.
   b. Install wheel / tyre assemblies and secure them using bolts and lock washers. Tighten them to 102 Nm (75 ft-lbs.).
   c. Lower the front of the tractor.

7. Rear Wheels-
   a. Carefully raise and block the rear of the tractor.
   b. Install wheel / tyre assemblies and secure them using bolts and lock washers. Tighten them to 102 Nm (75 ft-lbs.).
   c. Lower the rear of the tractor.

8. Three-Point-Hitch-is partially assembled with the lift rods attached the lower links and the sway chain attached to the lower links.
   a. Attach lower links to the tractor attaching points and secure them with lynch pins. The lower link with the adjustable lift rod goes on the right side. The lower links will flare outward at rear when correctly installed.
   b. Connect clevis-end of the check chains to the axle brackets and secure them with a clevis pin and cotter pin.

9. Clutch Housing Plug -1/8" pipe plug (1) in Fig. 6-48 into the hole in the bottom of the clutch housing.
ASSEMBLY & PRE-DELIVERY INSPECTION

PRE-DELIVERY

- Check that engine oil level is correct.
- Check that coolant level is correct.
- Check fan belt tension, 12 mm (1 / 2") deflection, when subjected to a force of thumb pressure.
- Check that transmission oil level is correct.
- Install a sufficient amount of No.2 diesel fuel to complete pre-delivery service.
- Ensure clean and tight cable connection at the battery. The battery must be securely mounted.
- Check the air cleaner, element, houses, and clamps for correct installation.
- Check the brake and clutch pedal linkage for correct free-travel.
- Check steering, brake and clutch linkage cotter pins and lock nuts for secure installation.
- Check the filter element and, all connections and clamps for the hydraulic pump and filter.
- Check oil level in the front axle.
- Place the fuel filter shut-off valve in the “ON” position.
- Take up position in the operator’s seat and engage the parking brakes.
- Place all shift levers in neutral and then depress the clutch pedal. (Mechanical Transmission)
- Place the rear and mid PTO lever (or switch) in neutral (or in off).

NOTE: The engine will not start unless the gear shift levers and rear / mid PTO selectors are in neutral. (Mechanical Transmission)
The engine will not start unless the range gear shift lever and PTO control switch is in neutral. (Hydrostatic Transmission)

- Set the throttle lever at half to full throttle and turn the starter key to “GLOW” position until the glow indicator is heated red.
- Turn the starter key to “ON” position. Oil pressure and alternator warning lights will illuminate.
- Turn the starter key to “START” position to crank the engine. Release the key the moment the engine starts. Check that warning lights go out.
- Allow the engine to warm up to operating temperature at about 1500 rpm.
- Operate the tractor to confirm it operates smoothly at all speeds including four-wheel drive.
- Operate the PTO to see that it functions properly.
- Check that all lights and instruments operate properly.
- Check the brakes for balanced operation.
- Check warm engine low idle speed: 950-1000 rpm (TM3160); 1250-1300 rpm (TM3200/3240).
- Check warm engine high idle speed: 2650-2750 rpm (TM3160 / 3200); 2760-2860 rpm (TM3240).
- Set the throttle lever at idle, shut off the engine, and check the tractor for coolant, lubricating oil or fuel leaks.
- Check that safety start system functions correctly.
FACTORY RECOMMENDED
NEW TRACTOR PRE-DELIVERY INSPECTION CHECK LIST
ISEKI

USER’S NAME ____________________________  AREA __________ DATE __________
DEALER ________________________________  ADDRESS _______________________
TRACTOR MODEL _________________________  SERIAL NO. _______________________
ENGINE SERIAL NO. ______________________  COUNTRY _________________________

THIS PRE-DELIVERY INSPECTION CHECK LIST IS PROVIDED TO IDENTIFY THE CHECKED AND NECESSARY
ADJUST BY THE DEALER PRIOR TO DELIVERY OF THIS MACHINE.

Inpected the following and adjusted if necessary.

ENGINE

☐ Radiator filled with solution
☐ Cooling system connections
☐ Fan and alternator belt tension
☐ Engine oil
☐ All oil drain plugs
☐ Oil pressure
☐ Engine RPM (idle)

☐ Engine RPM (full throttle)
☐ Governor performance
☐ Electrical connections
☐ Service air cleaner
☐ All cleaner connections
☐ Fuel line connections
☐ Injection pump oil

CHASSIS

☐ Tyre inflation
☐ Front wheel hub bolts
☐ Rear wheel hub bolts
☐ Torque all chassis bolts
☐ Transmission oil
☐ Front reduction case
☐ Break pedal free-play
☐ Clutch pedal free-play

☐ Hydraulic system performance
☐ Drive test
☐ Lubricate all grease fittings
☐ Power-assisted steering operation (if equipped)
☐ Front axle oil (4-WD)
☐ Front axle operation (4-WD)
☐ Operation manual with tractor

Explained the following to the owner.

☐ Operation manual
☐ Safety and safety start system
☐ Instruments and controls
☐ Breaking in the new tractor
☐ Power take-off operation
☐ Lubrication and maintenance schedule
☐ Explain use of Rollover Protective Structure (ROPS)

☐ Fuel system servicing and cleanliness
☐ Draining of engine and radiator
☐ Air cleaner service
☐ Tyre care
☐ Wheel tread adjustment
☐ Storage
FACTOR RECOMMENDED
NEW TRACTOR PRE-DELIVERY INSPECTION CHECK LIST
ISEKI

USER’S NAME___________________________  AREA________________DATE____________
DEALER_______________________________  ADDRESS________________________________
TRACTOR MODEL_______________________  SERIAL NO.______________________________
ENGINE SERIAL NO.____________________  COUNTRY_______________________________

THIS PRE-DELIVERY INSPECTION CHECK LIST IS PROVIDED TO IDENTIFY THE CHECKED AND NECESSARY
ADJUST BY THE DEALER PRIOR TO DELIVERY OF THIS MACHINE.

Inspected the following and adjusted if necessary.

ENGINE
☐ Radiator filled with solution  ☐ Engine RPM (full throttle)
☐ Cooling system connections  ☐ Governor performance
☐ Fan and alternator belt tension  ☐ Electrical connections
☐ Engine oil  ☐ Service air cleaner
☐ All oil drain plugs  ☐ All cleaner connections
☐ Oil pressure  ☐ Fuel line connections
☐ Engine RPM (idle)  ☐ Injection pump oil

CHASSIS
☐ Tyre inflation  ☐ Hydraulic system performance
☐ Front wheel hub bolts  ☐ Drive test
☐ Rear wheel hub bolts  ☐ Lubricate all grease fittings
☐ Torque all chassis bolts  ☐ Power-assisted steering operation (if equipped)
☐ Transmission oil  ☐ Front axle oil (4-WD)
☐ Front reduction case  ☐ Front axle operation (4-WD)
☐ Break pedal free-play  ☐ Operation manual with tractor
☐ Clutch pedal free-play

Explained the following to the owner.

☐ Operation manual  ☐ Fuel system servicing and cleanliness
☐ Safety and safety start system  ☐ Draining of engine and radiator
☐ Instruments and controls  ☐ Air cleaner service
☐ Breaking in the new tractor  ☐ Tyre care
☐ Power take-off operation  ☐ Wheel tread adjustment
☐ Lubrication and maintenance schedule  ☐ Storage
☐ Explain use of Rollover Protective Structure (ROPS)