



# Start-Up & Shutdown Procedures (16M/24M)

Inspector \_\_\_\_\_ Evaluator \_\_\_\_\_

## MOUNTING AND DISMOUNTING

- Mount or dismount the machine only at locations that have steps and/or handholds. Before you mount the machine, clean and inspect the steps and handholds. Make all necessary repairs.
- Always face the machine whenever you get on or off the machine.
- Maintain three-point contact with the steps and with the handholds. (Three-point contact can be 2 feet and 1 hand or 1 foot and 2 hands).
- DO NOT mount or dismount a moving machine. Never jump off the machine. Do not carry tools or supplies when you try to mount the machine or when you try to dismount the machine.

| Was procedure step completed properly? | ✓ | Evaluator Comments |
|--|---|--------------------|
|--|---|--------------------|

### BEFORE STARTING THE MACHINE

|   |  |  |
|---|--|--|
| Inspect the condition of the seat belt and mounting hardware<br>Regardless of appearance, replace the seat belt after three years of use              |  |  |
| Adjust the seat so that full pedal travel can be achieved with the operator's back against the back of the seat                                       |  |  |
| Make sure the machine is equipped with a lighting system that is adequate for the job conditions<br>Make sure all machine lights are working properly |  |  |
| Before you start the engine and before you move the machine, make sure that no one is underneath the machine, around the machine, or on the machine   |  |  |

### STARTING THE MACHINE

|  |  |  |
|--|--|--|
| Remove the frame lock pin and wheel lean locking bolt (if equipped)                      |  |  |
| Turn the battery disconnect switch ON  |  |  |
| Adjust seat for proper height and pedal reach  |  |  |
| Adjust the control pod height and adjust the control pod fore/aft position (if equipped) |  |  |
| Inspect, adjust mirrors  |  |  |
| Adjust steering wheel/steering column (if equipped)                                      |  |  |
| Inspect, adjust, and fasten seat belt  |  |  |
| Ensure all implements are grounded   |  |  |
| Ensure the parking brake is engaged  |  |  |
| Move the implement control levers into HOLD  |  |  |
| Move the transmission control lever to NEUTRAL   |  |  |
| Ensure all personnel are clear of machine, sound horn                                    |  |  |
| Turn engine start switch to the ON position  |  |  |
| Observe monitoring system self-diagnostic test, add fluids if necessary                  |  |  |
| Turn the key start switch to START, crank engine and release when engine starts          |  |  |

### MACHINE WARM-UP

|   |  |  |
|---|--|--|
| Allow machine to warm up (per O&MM)   |  |  |
| Engage and disengage implement controls   |  |  |
| Cycle all hydraulic controls to allow warm oil to circulate through all hydraulic cylinders and all hydraulic lines |  |  |
| Move machine forward and backward several meters (yards) to warm-up power train oil                                 |  |  |
| Operate under a light load until the systems reach normal operating temperatures                                    |  |  |
| Check gauges, indicators, and action light frequently   |  |  |



# Start-Up & Shutdown Procedures (QM)

| Was procedure step completed properly? | ✓ | Evaluator Comments |
|--|---|--------------------|
|--|---|--------------------|

## MOVING THE MACHINE

|  |  |  |
|--|--|--|
| Make sure area is clear by sounding horn and waiting 3-5 seconds before moving machine |  |  |
| Raise all lowered implements   |  |  |
| Depress the service brake pedal  |  |  |
| Engage the transmission modulator pedal  |  |  |
| Release the parking brake  |  |  |
| Move the transmission control to desired direction and gear                            |  |  |
| Release the service brake pedal, check for proper direction                            |  |  |
| Release transmission modulator pedal   |  |  |
| Push down on accelerator   |  |  |

## MACHINE SHUT DOWN

|   |  |  |
|---|--|--|
| Park machine on smooth, level area  |  |  |
| Apply the service brake to slow the machine   |  |  |
| Apply the transmission modulator control ( inching pedal) to stop the machine (12M, 120M, 140M, 160M, 14M, 16M)   |  |  |
| Move the transmission control lever to NEUTRAL  |  |  |
| Move the throttle control to the LOW IDLE position  |  |  |
| Engage the parking brake  |  |  |
| Lower all equipment to the ground and activate any control locks  |  |  |
| Run at LOW IDLE for 5 minutes to allow the engine to cool   |  |  |
| Turn key start switch to OFF and remove key   |  |  |
| Utilize correct delayed engine shutdown procedure if equipped.<br>Note: Overriding delayed engine shutdown may reduce engine & machine system component life.<br><b>Use for emergency situations only.</b>  |  |  |
| Turn battery disconnect switch to OFF   |  |  |
| Do not turn off the battery disconnect switch until the "wait to disconnect" lamp has turned off. If the switch is turned off when the indicator lamp is illuminated the Diesel Exhaust Fluid (DEF) system will not purge the DEF. If the DEF does not purge, DEF could freeze and damage the pump and lines (if equipped). |  |  |
| Dismount machine using 3-point contact  |  |  |
| If parking for extended period remove disconnect switch key and install vandalism guards (if equipped)  |  |  |
| Drain water from air tank (if equipped)   |  |  |
| Conduct post-operation walkaround inspection  |  |  |

## NOTES:

Inspected by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

