Mandatory Safety Shutdown Procedure

Before cleaning, adjusting, lubricating, servicing the unit, or leaving it unattended:

1. Move the drive control handle(s) to the neutral position.
2. Lower the lift arm and attachment completely. If the lift arm *must* be left in the raised position, BE SURE to properly engage the lift arm support device (page 20).
3. Move the throttle to the low idle position, shut off the engine and remove the key.
4. Before exiting, move the lift/tilt control(s) to verify that the controls do not cause movement of the lift arm and hitch.

Safety Reminders

Before Starting

- Do not modify the ROPS/FOPS unless instructed to do so in installation instructions. Modifications such as welding, drilling or cutting can weaken the structure and reduce the protection it provides. A damaged ROPS/FOPS cannot be repaired – it must be replaced.
- To ensure safe operation, replace damaged or worn-out parts with genuine Gehl service parts.
- Gehl skid-steer loaders are designed and intended to be used only with Gehl attachments or approved referral attachments. Gehl cannot be responsible for operator safety if the loader is used with a non-approved attachment.
- Remove all trash and debris from the machine each day, especially in the engine compartment, to minimize the risk of fire.
- Always face the loader and use the handholds and steps when getting on and off the loader. Do not jump off the loader.
- Never use starting fluid (ether).
- Walk around the machine and warn all nearby personnel before starting the machine.
- Always perform a daily inspection of the machine before using it. Look for damage, loose or missing parts, leaks, etc.

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TROUBLESHOOTING

Electrical System

Problem	Possible Cause	Remedy
Entire electrical system does not function.	Battery disconnect switch is OFF position.	Turn battery disconnect switch to ON.
	Fueses above battery have tripped or malfunctioned.	Check circuit and locate problem causing fuse to trip.
	Main wiring harness connectors at rear of ROPS/ FOPS not properly plugged in.	Check main harness connectors.
	Battery terminals or cables loose or corroded.	Clean battery terminals and cables and retighten them.
	Power cable from battery to circuit breaker buss bar is not connected.	Check power cable connection.
	Battery is faulty.	Test battery, replace as needed.
No instrument panel lamps with keyswitch turned to "ON".	Gauge fuse is blown.	Check circuit, install new fuse.
	Battery terminals or cables are loose or corroded.	Clean battery terminals and cables and retighten them.
Fuel gauge does not work.	Faulty fuel gauge sender.	Replace fuel gauge sender.
	Faulty fuel gauge.	Replace fuel gauge.
	Gauge fuse is blown.	Check circuit, install new fuse.
	Loose wiring/terminal connections.	Verify wiring connections.
Engine temperature gauge does not work.	Faulty temperature sender.	Replace temperature sender.
	Gauge fuse is blown.	Check circuit, install new fuse.
	Faulty temperature gauge.	Replace temperature gauge.
	Loose wiring/terminal connections.	Verify wiring connections.
Hourmeter does not work.	Loose wiring/terminal connections.	Verify wiring connections.
	Faulty alternator.	Repair alternator.
	Faulty hourmeter.	Replace hourmeter.

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CHAPTER 8

SPECIFICATIONS

Loader Specifications

Specification	7810E
Operating Weight	10520 lbs (4772 kg)
Shipping Weight	9297 lbs (4217 kg)
Rated Operating Load[1] (capacity)	3850 lbs (1747 kg)
Engine	
Make	Cummins (Turbo)
Model	B4.5T - 99C
Displacement	275 in^3 (4,5 L)
Power (net)	99 hp (73.8 kW) @ 2200 rpm
Peak Torque	305 ft-lbs (414 N·m) @ 1500 rpm
Hydraulic System (theoretical)	
Main Hydraulic System Pressure	3300 psi (228 bar)
Standard-Flow Rating	29 gpm (110 L/min)
High-Flow Rating	41 gpm (155 L/min)
Electrical	
Battery	12-Volt DC, 1500 CCA
Starter	12-Volt DC (4.8 kW)
Alternator	95 amperes
Capacities	
Chaincase (each)	11.5 U.S. qts (10,9 L)
Engine Oil	11.0 U.S. qts (10,4 L)
Fuel Tank	30.5 U.S. gal (115,4 L)
Hydraulic Reservoir	15 U.S. gal (56,8 L)
Sound Levels (with Deluxe Sound Kit) Pressure Level (Operator Ear)	TBA
Power Level (Environmental)	TBA

1. Operating load (capacity) rated with an 84 in. ((2134 mm) 7810E – 28 ft^3 [0.8 m^3].

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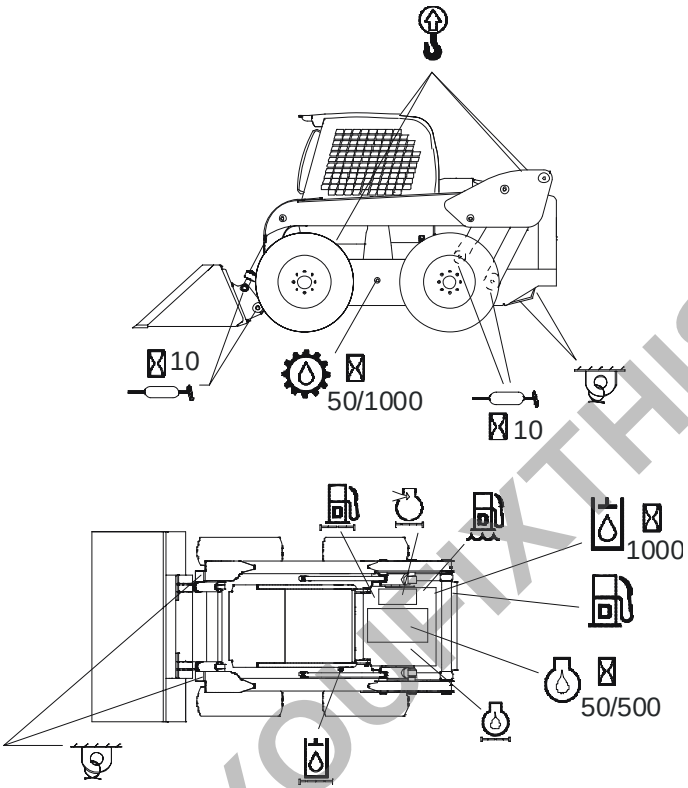


Figure 41 Service Locations

Lubrication Procedure	10 Hours (or Daily)	250 Hours	500 Hours (or Yearly)
Check Engine Oil Level (page 63)	●		
Check Hydraulic Oil Level (page 64)	●		
Grease Lift Arm, Hitch, Cylinder Pivots and Latch Pins	●		
Check Oil Level in Chaincases (page 59)		●	
Change Engine Oil and Filter (page 63)	☐	❖	●
Change Hydraulic Oil Filter (page 65)			●
Change Hydraulic Oil (page 65)			♦
Change Chaincase Oil (page 59)	☐		♦
Check and Drain Water Separator	●		

☐ Perform the initial procedure at 50 hours, then at "●" or "♦" intervals.

❖ Severe operating conditions.

♦ Perform the procedure at 1000 hours.

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TORQUE SPECIFICATIONS

Use these torque values when tightening hardware (excluding locknuts, and self-tapping, thread-forming, and sheet metal screws) unless otherwise specified.

UNIFIED NATIONAL THREAD	GRADE 2		GRADE 5		GRADE 8	
	DRY	LUBED	DRY	LUBED	DRY	LUBED
8-32	19*	14*	30*	22*	41*	31*
8-36	20*	15*	31*	23*	43*	32*
10-24	27*	21*	43*	32*	60*	45*
10-32	31*	23*	49*	36*	68*	51*
1/4-20	66*	50*	9	75*	12	9
1/4-28	76*	56*	10	86*	14	10
5/16-18	11	9	17	13	25	18
5/16-24	12	9	19	14	25	20
3/8-16	20	15	30	23	45	35
3/8-24	23	17	35	25	50	35
7/16-14	32	24	50	35	70	55
7/16-20	36	27	55	40	80	60
½-13	50	35	75	55	110	80
½-20	55	40	90	65	120	90
9/16-12	70	55	110	80	150	110
9/16-18	80	60	120	90	170	130
5/8-11	100	75	150	110	220	170
5/8-18	110	85	180	130	240	180
3/4-10	175	130	260	200	380	280
3/4-16	200	150	300	220	420	320
7/8-9	170	125	430	320	600	460
7/8-14	180	140	470	360	660	500
1-8	250	190	640	480	900	680
1-12	270	210	710	530	1000	740

METRIC COARSE THREAD	GRADE 8.8		GRADE 10.9		GRADE 12.9	
	DRY	LUBED	DRY	LUBED	DRY	LUBED
M6-1	8	6	11	8	13.5	10
M8-1.25	19	14	27	20	32.5	24
M10-1.5	37.5	28	53	39	64	47
M12-1.75	65	48	91.5	67.5	111.5	82
M14-2	103.5	76.5	145.5	108	176.5	131
M16-2	158.5	117.5	223.5	165.5	271	200

*All torque values are in ft-lbs except those marked with an * which are in-lbs.
For metric torque value (N·m) multiply ft-lbs value by 1.355 or the in-lbs value by 0.113.

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CHAPTER 4

OPERATION

⚠ WARNING **Before starting the engine and operating the loader, review and comply with all safety recommendations in the *Safety* chapter of this manual. Know how to stop the loader before starting it. Also, be sure to fasten and properly adjust the seatbelt and lower the operator restraint bar.**

Before Starting the Engine

Before starting the engine and running the loader, refer to the *Controls and Safety Equipment* chapter and familiarize yourself with the various operating controls, indicators and safety devices on the loader.

Starting the Engine

The following procedure is recommended for starting the engine:

1. Carefully step up onto the back of the bucket or attachment and grasp the hand holds to get into the operator's compartment.
2. Fasten the seatbelt(s) and lower the restraint bar.
3. Verify the following:
   - the lift/tilt, drive and auxiliary controls are in their neutral positions,
   - the parking brake switch is ON.
4. Push the throttle lever forward to approximately half speed.

Note: *When the key is turned to the RUN position, an indicator will light on the instrument panel and a buzzer will sound momentarily to remind you to check that your seatbelt is fastened.*

5. Turn the key to the START position.

Important: *Do not engage the starter for longer than 15 seconds at a time. Longer use can overheat and damage the starter. If the engine fails to start within 15 seconds, return the key to the OFF position and repeat Step 5. Allow the starter to cool for 20 seconds and repeat Step 5.*

After the engine starts, allow a sufficient warm-up time before attempting to operate the controls.

Important: *If the indicator warning lights do not go off, stop the engine and investigate the cause.*

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Instrument Panels

The instrument panels contain the switches and indicators. Symbols on the panel represent various functions and conditions, and are visible only when indicator lamps are on.

Left Panel

1. **Two-Speed Transmission (optional)** – Lights when high speed is engaged.
2. **Parking Brake** – Lights when the parking brake is applied.
3. **Power-A-Tach™ Hitch (optional)** – Used to operate the Power-A-Tach hitch.
4. **Fan (optional)** – Used to manually control the fan for the air conditioner and heater.
5. **Accessory Plug** – 12-volt DC power outlet.
6. **Hydraglide™ Ride Control System (optional)** – Lights when the ride control system is activated.
7. **Float Indicator (joystick control option only)** – Lights when float function is activated.
8. **Parking Brake Switch** – Used to manually apply the parking brake.

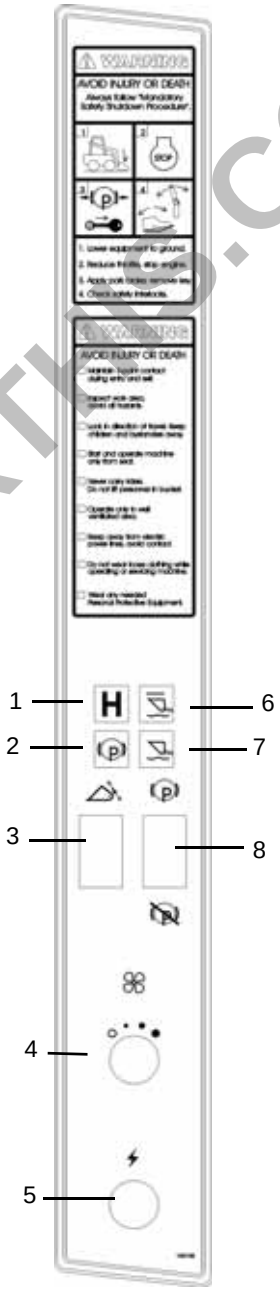


Figure 12 Left Panel

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1. Turn the keyswitches of both machines to OFF. Be sure the machines are in neutral and NOT touching each other.
2. Connect the positive (+) jumper cable to the positive (+) remote battery terminal on the disabled loader first. Do not allow the jumper cables positive cable clamp to touch any metal other than the positive (+) remote terminal. Connect the other end of the positive jumper cable to the jumper machine's positive (+) terminal.
3. Connect the negative (-) jumper cable to the jumper machine's negative (-) terminal.
4. Make the final negative (-) jumper cable connection to the disabled machine negative (-) remote terminal.
5. Be sure the parking brake switch is engaged and that the controls are in neutral. Start the engine. If it does not start at once, start the jumper machine's engine to avoid excessive drain on the booster battery.
6. After the disabled loader is started and running smoothly, have the second person remove the jumper cables (negative (-) jumper cable first) from the jumper machine's battery and then from the disabled loader while being sure NOT to short the two cables together.

Allow sufficient time for the skid-steer loader alternator to build up a charge in the battery before attempting to operate the loader or shutting off the engine.

Changing Attachments

⚠ WARNING To prevent unexpected release of the attachment from the hitch, be sure to properly secure the hitch latch pins by rotating the latch lever all the way to the left (manual All-Tach™ hitch) or by ensuring that the pin flags are all the way to the outside (Power-A-Tach™ hitch).

The skid-steer loader features either a manual or a power hitch for mounting a bucket or other attachment conforming to SAE Standard J2513.

On a manual All-Tach (Figure 25) hitch, a latch lever engages the latch pins to secure the attachment. On a Power-A-Tach (Figure 26) hitch, a switch on the left control panel engages the latch pins to secure the attachment.

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⚠ WARNING **Park the truck or trailer on a level surface. Be sure the vehicle and its ramps have the weight capacity to support the loader. Be sure the vehicle surface and its ramps are clear of debris and slippery material that may reduce traction. Move the loader on and off the vehicle ramp slowly and carefully. Failure to follow these instructions could result in an overturn accident.**

Observe all local regulations governing the loading and transporting of equipment (Reference U.S. Federal Motor Carrier Safety Regulations, Section 392.9). Ensure that the hauling vehicle meets all safety requirements before loading the skid-steer loader.

1. Place blocks at the front and rear of the hauling vehicle's tires.
2. If the loader has an attachment, lift it slightly off the ground.
3. Back the loader slowly and carefully up the ramp onto the vehicle.
4. Lower the loader attachment to the vehicle deck, turn off the engine and remove the key.
5. Fasten the loader to the hauling vehicle at the points indicated by the tie-down decals (Figure 32 and Figure 33).
6. Measure the clearance height of the loader and hauling vehicle. Post the clearance height in the cab of the vehicle.



Figure 32 Front Tie-Down



Figure 33 Rear Tie-Down

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Engagement

To engage the lift arm support device:

1. Raise the lift arm fully.
2. Stop the engine.
3. Remove the lift arm support device from its storage location (Figure 5).
4. Place the lift arm support device on the left lift cylinder (Figure 4).
5. Enter machine and start engine.
6. Slowly lower lift arm until it engages and locks against the lift arm support device.
7. Stop the engine.



Figure 4 Lift Arm Support Device Engaged

Disengagement

To disengage the lift arm support device:

1. Start the engine.
2. Raise the lift arm fully.
3. Stop the engine.
4. Remove the lift arm support device from the lift cylinder and return it to its storage location (Figure 5).
5. Secure the lift arm support device with the lock pin.

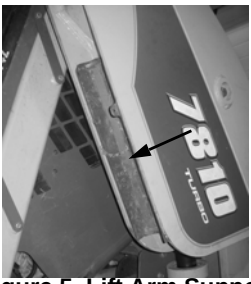


Figure 5 Lift Arm Support Device Storage Location

Accessory Plug

The accessory plug is located at the bottom of the left instrument panel.

Dome Light

The dome light is located on the right side of the ROPS/FOPS ceiling. Push the dome light to turn on the light.

Work Lights

Loaders have two sets of work lights. The front work lights are located at the front of the loader, toward the top of the ROPS/FOPS. The rear work lights are located at the rear of the loader on the rear door.

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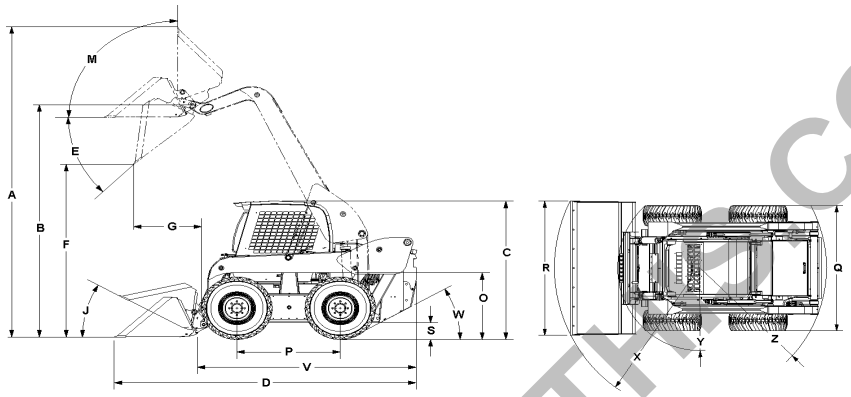
Electrical System

Problem	Possible Cause	Remedy
Starter will not engage when key is turned to START.	Seat or restraint bar switch malfunctioning or not actuated.	Contact your dealer.
	Poor connections to starter relay or solenoid.	Verify relay connections.
	Battery terminal or cables loose or corroded.	Clean terminal, cables and retighten.
	Faulty starter relay.	Contact your dealer.
	Battery discharged or defective.	Recharge or replace battery.
	Starter solenoid not functioning.	Contact your dealer.
	Ignition wiring, seat switch, restraint bar switch, etc. loose or disconnected.	Check wiring for poor connections, broken leads; repair wiring or connection.
	Starter safety relay malfunctioning.	Verify relay is working properly, replace.
	Starter or pinion faulty.	Remove starter; repair/ replace as needed.
Work lights not functioning properly.	Single light not working; light bulb burned out, faulty wiring.	Check and replace light bulb as needed. Check wiring connection to light.
	No lights; 30 ampere light fuse blown.	Check circuit and locate trouble before replacing fuse.
	Faulty light switch or poor ground or corroded connections.	Check ground wire connections. Replace light switch.
Lift/Tilt and/or drive lock solenoids do not work.	Wiring to solenoids disconnected or faulty.	Troubleshoot circuit, repair.
	Restraint bar or seat switch malfunction.	Contact your dealer.
	Faulty solenoid valve coil.	Contact your dealer.
	Solenoid relay malfunctioning.	Verify relay is working properly, replace.
	Faulty hydraulic solenoid relay.	Contact your dealer.

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Dimensional Specifications



		22 ft³ (0.6 m³) Bucket w/14 x 17.5 Tires	
		inches	mm
A	Overall Operation Height – Fully Raised	185.8	4719
B	Height to Hinge Pin – Fully Raised	142.0	3607
C	Overall Height – Top of ROPS/FOPS	81.1	2050
D	Overall Length – Bucket Down	159.0	4039
E	Dump Angle at Full Height	35.8°	
F	Dump Height	109.5	2781
G	Dump Reach – Bucket Full Height	36.8	934
J	Rollback at Ground	28.2°	
M	Rollback Angle at Full Height	85°	
O	Seat to Ground Height	40.5	1029
P	Wheel Base – Nominal	54.3	1379
Q	Overall Width – Less Bucket	80.3	2040
R	Bucket Width – Overall	84.0	2134
S	Ground Clearance – to Chassis (Between Wheels)	8.5	216
U	Maximum Grading Angle	81.5°	
V	Overall Length (Less Bucket)	122.0	3099
W	Departure Angle	21.0°	
X	Clearance Circle – Front (With Bucket)	98.5	2502
Y	Clearance Circle – Front (Less Bucket)	60.6	1539
Z	Clearance Circle – Rear	80.5	2045

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