SV208
SV210
SV212
SV216
Tier 3
Vibratory Roller

SERVICE MANUAL

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CASE CONSTRUCTION

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INTRODUCTION

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Foreword - Important notice regarding equipment servicing

All repair and maintenance work listed in this manual must be carried out only by qualified dealership personnel, strictly complying with the instructions given, and using, whenever possible, the special tools.

Anyone who performs repair and maintenance operations without complying with the procedures provided herein shall be responsible for any subsequent damages.

The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional, or local dealers, reject any responsibility for damages caused by parts and/or components not approved by the manufacturer, including those used for the servicing or repair of the product manufactured or marketed by the manufacturer. In any case, no warranty is given or attributed on the product manufactured or marketed by the manufacturer in case of damages caused by parts and/or components not approved by the manufacturer.

The information in this manual is up-to-date at the date of the publication. It is the policy of the manufacturer for continuous improvement. Some information could not be updated due to modifications of a technical or commercial type, or changes to the laws and regulations of different countries.

In case of questions, refer to your CASE CONSTRUCTION Sales and Service Networks.

Safety rules

Personal safety

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: *Notice indicates a situation that, if not avoided, could result in machine or property damage.*

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: *Note indicates additional information that clarifies steps, procedures, or other information in this manual.*

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules - Personal safety

Carefully study these precautions, and those included in the external attachment operators manual, and insist that they be followed by those working with and for you.

1. Thoroughly read and understand this manual and the attachment Operator's Manual before operating this or any other equipment.
2. Be sure all people and pets are clear of the machine before starting. Sound the horn, if equipped, three times before starting engine.
3. Only the operator should be on the machine when in operation. Never allow anyone to climb on to the machine while it is in motion. If the machine is equipped with an Instructors Seat, this must only be used for training purposes. Passengers must not be allowed to use the Instructors Seat.
4. Keep all shields in place. Never work around the machine or any of the attachments while wearing loose clothing that might catch on moving parts.
5. Observe the following precautions whenever lubricating the machine or making adjustments.

    - Disengage all clutching levers or switches.
    - Lower the attachment, if equipped, to the ground or raise the attachment completely and engage the cylinder safety locks. Completing these actions will prevent the attachment from lowering unexpectedly.
    - Engage the parking brake.
    - Shut off the engine and remove the key.
    - Wait for all machine movement to stop before leaving the operators platform.

6. Always keep the machine in gear while travelling downhill.
7. The machine should always be equipped with sufficient front or rear axle weight for safe operation.
8. Under some field conditions, more weight may be required at the front or rear axle for adequate stability. This is especially important when operating in hilly conditions or/when using heavy attachments.
9. Always lower the attachment, shut off the engine, set the parking brake, engage the transmission gears, remove the key and wait for all machine movement to stop before leaving the operators platform.
10. If the attachment or machine should become obstructed or plugged; set the parking brake, shut off the engine and remove the key, engage the transmission gears, wait for all machine or attachment motion to come to a stop, before leaving the operators platform to removing the obstruction or plug.
11. Never disconnect or make any adjustments to the hydraulic system unless the machine and/or the attachment is lowered to the ground or the safety lock(s) is in the engaged position.
12. Use of the flashing lights is highly recommended when operating on a public road.
13. When transporting on a road or highway, use accessory lights and devices for adequate warning to the operators of other vehicles. In this regard, check local government regulations. Various safety lights and devices are available from your CASE CONSTRUCTION dealer.
14. Practice safety 365 days a year.
15. Keep all your equipment in safe operating condition.
16. Keep all guards and safety devices in place.
17. Always set the parking brake, shut off the engine and remove the key, engage the transmission gears, wait for all machine or attachment motion to come to a stop, before leaving the operators platform to service the machine and attachment.
18. Remember: A careful operator is the best insurance against an accident.
19. Extreme care should be taken in keeping hands and clothing away from moving parts.

Safety rules - Ecology and the environment

Soil, air, and water are vital factors of agriculture and life in general. When legislation does not yet rule the treatment of some of the substances required by advanced technology, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

NOTE: *The following are recommendations that may be of assistance:*

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use, and dispose of these substances.
- Agricultural consultants will, in many cases, be able to help you as well.

Helpful hints

- Avoid filling tanks using cans or inappropriate pressurized fuel delivery systems that may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when draining off used engine coolant mixtures, engine, gearbox and hydraulic oils, brake fluids, etc. Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.
- Do not allow coolant mixtures to get into the soil Collect and dispose of coolant mixtures properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your CASE CONSTRUCTION dealer or air conditioning specialist has a special extractor for this purpose and will have to recharge the system properly.
- Repair any leaks or defects in the engine cooling or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, allowing the loss of oils, coolant, etc.

Torque

- Confirm regularly that bolted connections have not come loose.
- Use torque wrenches for tightening.
- If a special torque is needed, it is mentioned in the section.

Thread size	TIGHTENING TORQUE	
	For screws 8.8 (8G)	For srews 10.9 (10K)
M6	**10 N·m (7.4 lb ft)**	**14 N·m (10.3 lb ft)**
M8	**24 N·m (17.7 lb ft)**	**34 N·m (25.1 lb ft)**
M8x1	**19 N·m (14.0 lb ft)**	**27 N·m (19.9 lb ft)**
M10	**48 N·m (35.4 lb ft)**	**67 N·m (49.4 lb ft)**
M10x1.25	**38 N·m (28.0 lb ft)**	**54 N·m (39.8 lb ft)**
M12	**83 N·m (61.2 lb ft)**	**117 N·m (86.3 lb ft)**
M12x1.25	**66 N·m (48.7 lb ft)**	**94 N·m (69.3 lb ft)**
M14	**132 N·m (97.4 lb ft)**	**185 N·m (136.4 lb ft)**
M14x1.5	**106 N·m (78.2 lb ft)**	**148 N·m (109.2 lb ft)**
M16	**200 N·m (147.5 lb ft)**	**285 N·m (210.2 lb ft)**
M16x1.5	**160 N·m (118.0 lb ft)**	**228 N·m (168.2 lb ft)**
M18	**275 N·m (202.8 lb ft)**	**390 N·m (287.6 lb ft)**
M18x1.5	**220 N·m (162.3 lb ft)**	**312 N·m (230.1 lb ft)**
M20	**390 N·m (287.6 lb ft)**	**550 N·m (405.6 lb ft)**
M20x1.5	**312 N·m (230.1 lb ft)**	**440 N·m (324.5 lb ft)**
M22	**530 N·m (390.9 lb ft)**	**745 N·m (549.5 lb ft)**
M22x1.5	**425 N·m (313.5 lb ft)**	**590 N·m (435.2 lb ft)**
M24	**675 N·m (497.9 lb ft)**	**950 N·m (700.7 lb ft)**
M24x2	**540 N·m (398.3 lb ft)**	**760 N·m (560.5 lb ft)**
M27	**995 N·m (733.9 lb ft)**	**1400 N·m (1032.6 lb ft)**
M27x2	**795 N·m (586.4 lb ft)**	**1120 N·m (826.0 lb ft)**
M30	**1350 N·m (995.7 lb ft)**	**1900 N·m (1401.4 lb ft)**
M30x2	**1080 N·m (796.6 lb ft)**	**1520 N·m (1121.1 lb ft)**

The values given in the table are torques at dry thread (at coefficient of friction = 0.14). These values do not apply to greased thread.

Table with torques of cap nuts with O-ring - hoses

			Tightening torques for cap nuts with O-ring - hoses		
Size wrench	Thread size	Hose	Nominal	Min	Max
14	12x1.5	6	**20 N·m (14.8 lb ft)**	**15 N·m (11.1 lb ft)**	**25 N·m (18.4 lb ft)**
17	14x1.5	8	**38 N·m (28.0 lb ft)**	**30 N·m (22.1 lb ft)**	**45 N·m (33.2 lb ft)**
19	16x1.5	8	**45 N·m (33.2 lb ft)**	**38 N·m (28.0 lb ft)**	**52 N·m (38.4 lb ft)**
		10			
22	18x1.5	10	**51 N·m (37.6 lb ft)**	**43 N·m (31.7 lb ft)**	**58 N·m (42.8 lb ft)**
		12			
24	20x1.5	12	**58 N·m (42.8 lb ft)**	**50 N·m (36.9 lb ft)**	**65 N·m (47.9 lb ft)**
27	22x1.5	14	**74 N·m (54.6 lb ft)**	**60 N·m (44.3 lb ft)**	**88 N·m (64.9 lb ft)**
		15			
30	24x1.5	16	**74 N·m (54.6 lb ft)**	**60 N·m (44.3 lb ft)**	**88 N·m (64.9 lb ft)**
32	26x1.5	18	**105 N·m (77.4 lb ft)**	**85 N·m (62.7 lb ft)**	**125 N·m (92.2 lb ft)**

			Tightening torques for cap nuts with O-ring - hoses		
Size wrench	**Thread size**	**Hose**	**Nominal**	**Min**	**Max**
36	30x2	20	**135 N·m (99.6 lb ft)**	**115 N·m (84.8 lb ft)**	**155 N·m (114.3 lb ft)**
		22			
41	36x2	25	**166 N·m (122.4 lb ft)**	**140 N·m (103.3 lb ft)**	**192 N·m (141.6 lb ft)**
46		28			
50	42x2	30	**240 N·m (177.0 lb ft)**	**210 N·m (154.9 lb ft)**	**270 N·m (199.1 lb ft)**
50	45x2	35	**290 N·m (213.9 lb ft)**	**255 N·m (188.1 lb ft)**	**325 N·m (239.7 lb ft)**
	52x2	38	**330 N·m (243.4 lb ft)**	**280 N·m (206.5 lb ft)**	**380 N·m (280.3 lb ft)**
		42			

Table for torques of necks with sealing edge or with flat gasket

G - M	Tightening torques for flanges
G 1/8	**25 N·m (18 lb ft)**
G1/4	**40 N·m (30 lb ft)**
G 3/8	**95 N·m (70 lb ft)**
G 1/2	**130 N·m (96 lb ft)**
G 3/4	**250 N·m (184 lb ft)**
G 1	**400 N·m (295 lb ft)**
G 11/4	**600 N·m (443 lb ft)**
G 11/2	**800 N·m (590 lb ft)**
10 x 1	**25 N·m (18 lb ft)**
12 x 1.5	**30 N·m (22 lb ft)**
14 x 1.5	**50 N·m (37 lb ft)**
16 x 1.5	**60 N·m (44 lb ft)**
18 x 1.5	**60 N·m (44 lb ft)**
20 x 1.5	**140 N·m (103 lb ft)**
22 x 1.5	**140 N·m (103 lb ft)**
26 x 1.5	**220 N·m (162 lb ft)**
27 x 1.5	**250 N·m (184 lb ft)**
33 x 1.5	**400 N·m (295 lb ft)**
42 x 1.5	**600 N·m (443 lb ft)**
48 x 1.5	**800 N·m (590 lb ft)**

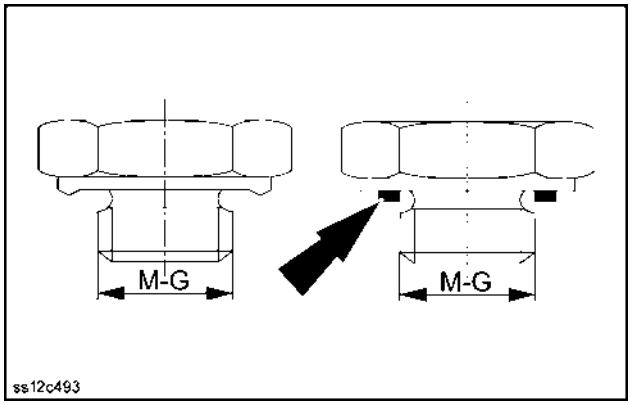

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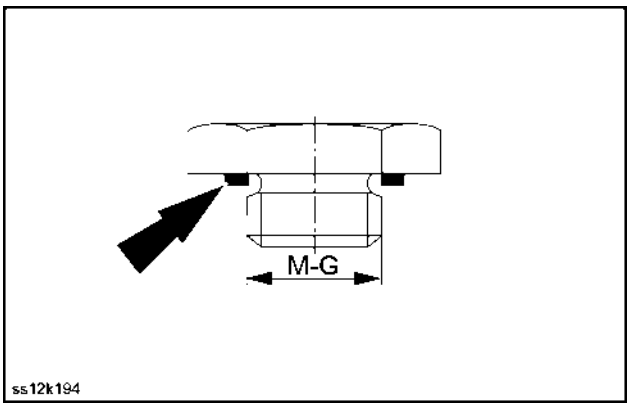
Table for torques of plugs with flat gasket

G - M	Tightening torques for flanges
G 1/8	**15 N·m** (**11 lb ft**)
G1/4	**33 N·m** (**24 lb ft**)
G 3/8	**70 N·m** (**52 lb ft**)
G 1/2	**90 N·m** (**66 lb ft**)
G 3/4	**150 N·m** (**111 lb ft**)
G 1	**220 N·m** (**162 lb ft**)
G 11/4	**600 N·m** (**443 lb ft**)
G 11/2	**800 N·m** (**590 lb ft**)
10 x 1	**13 N·m** (**10 lb ft**)
12 x 1.5	**30 N·m** (**22 lb ft**)
14 x 1.5	**40 N·m** (**30 lb ft**)
16 x 1.5	**60 N·m** (**44 lb ft**)
18 x 1.5	**70 N·m** (**52 lb ft**)
20 x 1.5	**90 N·m** (**66 lb ft**)
22 x 1.5	**100 N·m** (**74 lb ft**)
26 x 1.5	**120 N·m** (**89 lb ft**)
27 x 1.5	**150 N·m** (**111 lb ft**)
33 x 1.5	**250 N·m** (**184 lb ft**)
42 x 1.5	**400 N·m** (**295 lb ft**)
48 x 1.5	**500 N·m** (**369 lb ft**)



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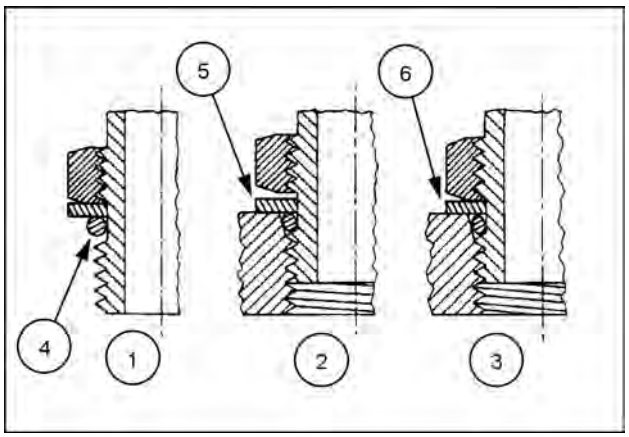
Torque - Standard torque data for hydraulics

INSTALLATION OF ADJUSTABLE FITTINGS IN STRAIGHT THREAD O RING BOSSES



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1. Lubricate the O-ring by coating it with a light oil or petroleum. Install the O-ring in the groove adjacent to the metal backup washer which is assembled at the extreme end of the groove **(4)**.
2. Install the fitting into the SAE straight thread boss until the metal backup washer contacts the face of the boss **(5)**.

   NOTE: *Do not over tighten and distort the metal backup washer.*
3. Position the fitting by turning out (counterclockwise) up to a maximum of one turn. Holding the pad of the fitting with a wrench, tighten the locknut and washer against the face of the boss **(6)**.

STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

TUBE NUTS FOR 37° FLARED FITTINGS				O-RING BOSS PLUGS ADJUSTABLE FITTING LOCKNUTS, SWIVEL JIC- 37° SEATS
SIZE	**TUBING OD**	**THREAD SIZE**	**TORQUE**	**TORQUE**
4	**6.4 mm** (**1/4 in**)	7/16-20	**12 - 16 N·m** (**9 - 12 lb ft**)	**8 - 14 N·m** (**6 - 10 lb ft**)
5	**7.9 mm** (**5/16 in**)	1/2-20	**16 - 20 N·m** (**12 - 15 lb ft**)	**14 - 20 N·m** (**10 - 15 lb ft**)
6	**9.5 mm** (**3/8 in**)	9/16-18	**29 - 33 N·m** (**21 - 24 lb ft**)	**20 - 27 N·m** (**15 - 20 lb ft**)
8	**12.7 mm** (**1/2 in**)	3/4-16	**47 - 54 N·m** (**35 - 40 lb ft**)	**34 - 41 N·m** (**25 - 30 lb ft**)
10	**15.9 mm** (**5/8 in**)	7/8-14	**72 - 79 N·m** (**53 - 58 lb ft**)	**47 - 54 N·m** (**35 - 40 lb ft**)
12	**19.1 mm** (**3/4 in**)	1-1/16-12	**104 - 111 N·m** (**77 - 82 lb ft**)	**81 - 95 N·m** (**60 - 70 lb ft**)
14	**22.2 mm** (**7/8 in**)	1-3/16-12	**122 - 136 N·m** (**90 - 100 lb ft**)	**95 - 109 N·m** (**70 - 80 lb ft**)
16	**25.4 mm** (**1 in**)	1-5/16-12	**149 - 163 N·m** (**110 - 120 lb ft**)	**108 - 122 N·m** (**80 - 90 lb ft**)
20	**31.8 mm** (**1-1/4 in**)	1-5/8-12	**190 - 204 N·m** (**140 - 150 lb ft**)	**129 - 158 N·m** (**95 - 115 lb ft**)
24	**38.1 mm** (**1-1/2 in**)	1-7/8-12	**217 - 237 N·m** (**160 - 175 lb ft**)	**163 - 190 N·m** (**120 - 140 lb ft**)
32	**50.8 mm** (**2 in**)	2-1/2-12	**305 - 325 N·m** (**225 - 240 lb ft**)	**339 - 407 N·m** (**250 - 300 lb ft**)

These torques are not recommended for tubes of **12.7 mm** (**1/2 in**) OD and larger with wall thickness of **0.889 mm** (**0.035 in**) or less. The torque is specified for **0.889 mm** (**0.035 in**) wall tubes on each application individually.

Before installing and torquing **37 °** flared fittings, clean the face of the flare and threads with a clean solvent or Loctite cleaner and apply hydraulic sealant **LOCTITE® 569** to the **37 °** flare and the threads.

Install fitting and torque to specified torque, loosen fitting and retorque to specifications.

PIPE THREAD FITTING TORQUE

Before installing and tightening pipe fittings, clean the threads with a clean solvent or Loctite cleaner and apply sealant **LOCTITE® 567 PST PIPE SEALANT** for all fittings including stainless steel or **LOCTITE® 565 PST** for most metal fittings. For high filtration/zero contamination systems use **LOCTITE® 545**.

PIPE THREAD FITTING	
Thread Size	**Torque (Maximum)**
1/8-27	**13 N·m** (**10 lb ft**)
1/4-18	**16 N·m** (**12 lb ft**)
3/8-18	**22 N·m** (**16 lb ft**)
1/2-14	**41 N·m** (**30 lb ft**)
3/4-14	**54 N·m** (**40 lb ft**)

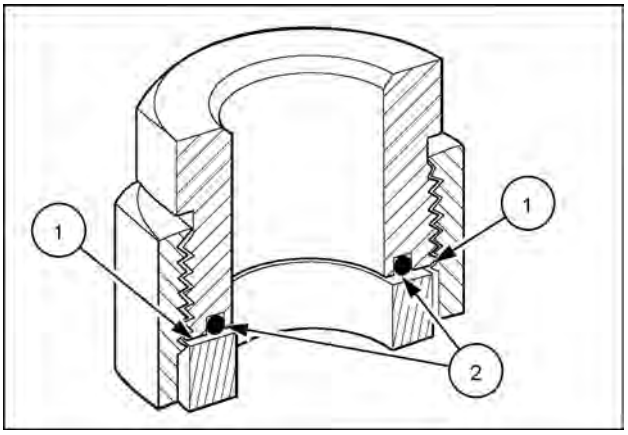
INSTALLATION OF ORFS (O-RING FLAT FACED) FITTINGS

When installing ORFS fittings thoroughly clean both flat surfaces of the fittings **(1)** and lubricate the O-ring **(2)** with light oil. Make sure both surfaces are aligned properly. Torque the fitting to specified torque listed throughout the repair manual.

NOTICE: *If the fitting surfaces are not properly cleaned, the O-ring will not seal properly. If the fitting surfaces are not properly aligned, the fittings may be damaged and will not seal properly.*

NOTICE: *Always use genuine factory replacement oils and filters to ensure proper lubrication and filtration of engine and hydraulic system oils.*

The use of proper oils, grease, and keeping the hydraulic system clean will extend machine and component life.



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Basic instructions - Shop and assembly

Shimming

For each adjustment operation, select adjusting shims and measure the adjusting shims individually using a micrometer, then add up the recorded values. Do not rely on measuring the entire shimming set, which may be incorrect, or the rated value shown on each shim.

Rotating shaft seals

For correct rotating shaft seal installation, proceed as follows:

1. Before assembly, allow the seal to soak in the oil it will be sealing for at least thirty minutes.
2. Thoroughly clean the shaft and check that the working surface on the shaft is not damaged.
3. Position the sealing lip facing the fluid.

   NOTE: *With hydrodynamic lips, take into consideration the shaft rotation direction and position the grooves so that they will move the fluid towards the inner side of the seal.*
4. Coat the sealing lip with a thin layer of lubricant (use oil rather than grease). Fill the gap between the sealing lip and the dust lip on double lip seals with grease.
5. Insert the seal in its seat and press down using a flat punch or seal installation tool. Do not tap the seal with a hammer or mallet.
6. While you insert the seal, check that the seal is perpendicular to the seat. When the seal settles, make sure that the seal makes contact with the thrust element, if required.
7. To prevent damage to the seal lip on the shaft, position a protective guard during installation operations.

O-ring seals

Lubricate the O-ring seals before you insert them in the seats. This will prevent the O-ring seals from overturning and twisting, which would jeopardize sealing efficiency.

Sealing compounds

Apply a sealing compound on the mating surfaces when specified by the procedure. Before you apply the sealing compound, prepare the surfaces as directed by the product container.

Spare parts

Only use CNH Original Parts or CASE CONSTRUCTION Original Parts.

Only genuine spare parts guarantee the same quality, duration, and safety as original parts, as they are the same parts that are assembled during standard production. Only CNH Original Parts or CASE CONSTRUCTION Original Parts can offer this guarantee.

When ordering spare parts, always provide the following information:

- Machine model (commercial name) and Product Identification Number (PIN)
- Part number of the ordered part, which can be found in the parts catalog

Protecting the electronic and/or electrical systems during charging and welding

To avoid damage to the electronic and/or electrical systems, always observe the following practices:

1. Never make or break any of the charging circuit connections when the engine is running, including the battery connections.
2. Never short any of the charging components to ground.
3. Always disconnect the ground cable from the battery before arc welding on the machine or on any machine attachment.
   - Position the welder ground clamp as close to the welding area as possible.
   - If you weld in close proximity to a computer module, then you should remove the module from the machine.
   - Never allow welding cables to lie on, near, or across any electrical wiring or electronic component while you weld.
4. Always disconnect the negative cable from the battery when charging the battery in the machine with a battery charger.

   NOTICE: *If you must weld on the unit, you must disconnect the battery ground cable from the machine battery. The electronic monitoring system and charging system will be damaged if this is not done.*
5. Remove the battery ground cable. Reconnect the cable when you complete welding.

⚠ WARNING

Battery acid causes burns. Batteries contain sulfuric acid.
Avoid contact with skin, eyes or clothing. Antidote (external): Flush with water. Antidote (eyes): flush with water for 15 minutes and seek medical attention immediately. Antidote (internal): Drink large quantities of water or milk. Do not induce vomiting. Seek medical attention immediately.
Failure to comply could result in death or serious injury.

W0111A

Special tools

The special tools that CASE CONSTRUCTION suggests and illustrate in this manual have been specifically researched and designed for use with CASE CONSTRUCTION machines. The special tools are essential for reliable repair operations. The special tools are accurately built and rigorously tested to offer efficient and long-lasting operation.

By using these tools, repair personnel will benefit from:

- Operating in optimal technical conditions
- Obtaining the best results
- Saving time and effort
- Working in safe conditions

Hydraulic contamination – Contamination

Contamination in the hydraulic system is a major cause of the malfunction of hydraulic components. Contamination is any foreign material in the hydraulic oil. Contamination can enter the hydraulic system in several ways.

1. When you drain the oil or disconnect any line.
2. When you disassemble a component.
3. From normal wear of the hydraulic components.
4. From damaged or worn seals.
5. From a damaged component in the hydraulic system.

All hydraulic systems operate with some contamination. The design of the components in this hydraulic system permits efficient operation with a small amount of contamination. An increase in this amount of contamination can cause problems in the hydraulic system. The following list includes some of these problems.

1. Cylinder rod seals leak.
2. Control valve spools do not return to neutral.
3. Movement of control valve spools is difficult.
4. Hydraulic oil becomes too hot.
5. Pump gears, housing, and other parts wear rapidly.
6. Relief valves or check valves held open by dirt.
7. Quick failure of components that have been repaired.
8. Cycle times are slow; machine does not have enough power.

If your machine has any of these problems, check the hydraulic oil for contamination. See types of contamination below. If you find contamination, use the Portable Filter to clean the hydraulic system.

NOTE: *There are two types of contamination, microscopic and visible.*

Microscopic contamination occurs when very fine particles of foreign material are in suspension in the hydraulic oil.

These particles are too small to see or feel. Microscopic contamination can be found by identification of the following problems or by testing in a laboratory. Examples of the problems:

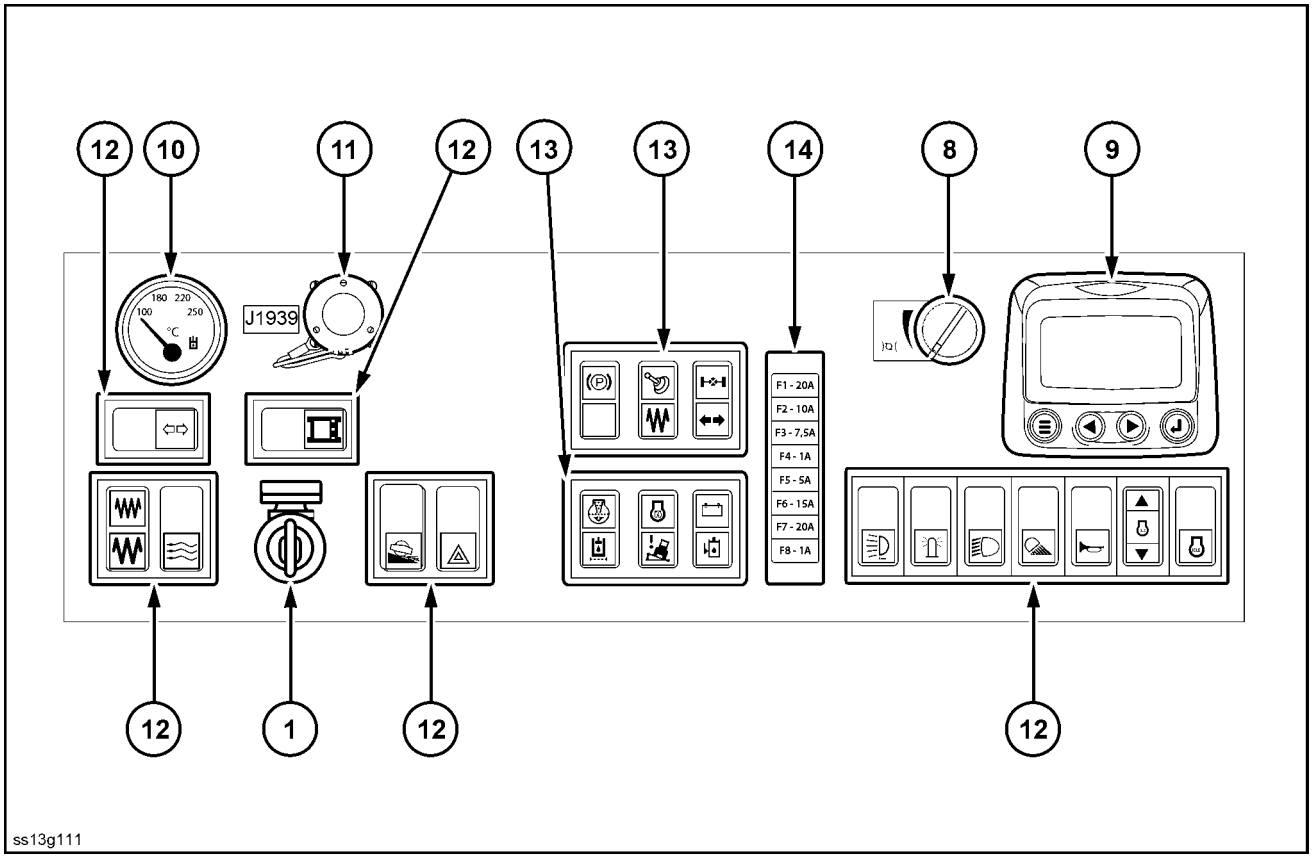
1. Cylinder rod seal leak.
2. Control valve spools do not return to NEUTRAL.
3. The hydraulic system has a high operating temperature.

Visible contamination is foreign material that can be found by sight, touch, or odor. Visible contamination can cause a sudden failure of components. Examples of visible contamination:

1. Particles of metal or dirt in the oil.
2. Air in the oil.
3. The oil is dark and thick.
4. The oil has an odor of burned oil.
5. Water in the oil.

General specification - Machine control panel

Dashboard and control panel



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Dashboard and control panel identification

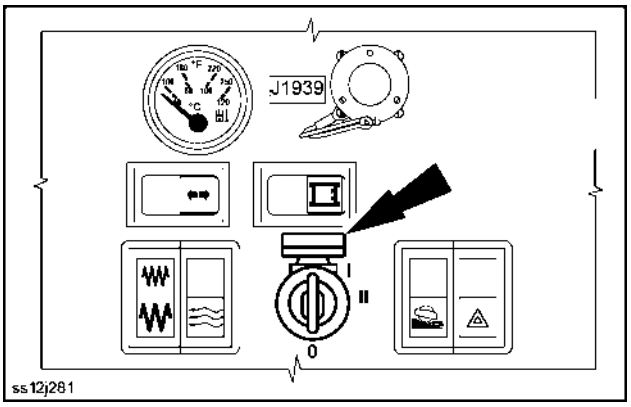
Item	Designation	Item	Designation
1	Ignition switch	11	Engine Control Unit (ECU) diagnostics socket
8	Engine speed selector	12	Switch panel
9	Power View display	13	Indicator lamps
10	Hydraulic oil temperature gauge	14	Fuses

(1) Ignition switch

With the key in the ignition switch, the following occurs:

- Position **0** - Electric power is available for the lights, cab/hood raising, and the cab climate control system.
- Position **I** - The dashboard controls are operable.
- Position **II** - The engine will start.

NOTE: *The ignition key is also used to lock and unlock the cab doors, the service hatch underneath the cab, and the tool kit.*



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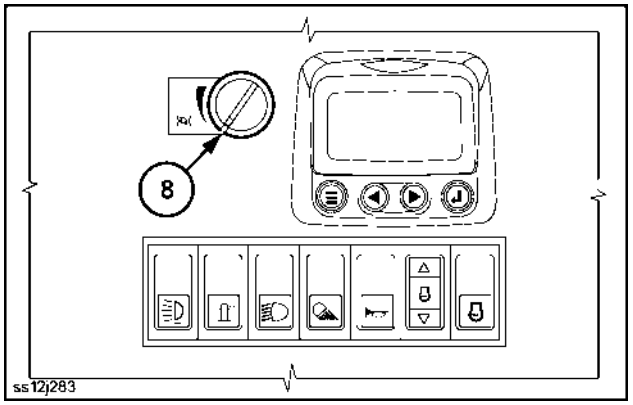
(8) Engine speed selector

Turn the selector dial to adjust the engine speed from maximum to minimum speed settings.



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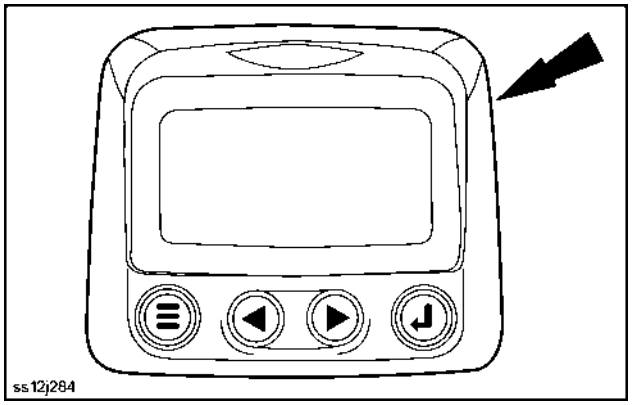
(9) Power View display

The Power View display is a multifunctional display that provides information to the operator such as the fuel level, engine hours, engine RPM, coolant temperature, and several other engine function parameters. The display can be adjusted to the operator's preference.



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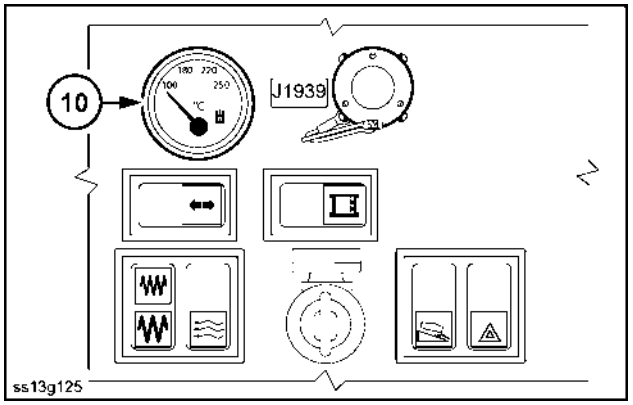
(10) Hydraulic oil temperature gauge

This indicates hydraulic oil temperature during operation. The optimal operating temperature is **50 - 60 °C** (**122 - 140 °F**).

Oil viscosity class	Highest permissible temperature
HV 100	**90 °C** (**194 °F**)
HV 68	**90 °C** (**194 °F**)
HV 46	**80 °C** (**176 °F**)
HV 32	**70 °C** (**158 °F**)



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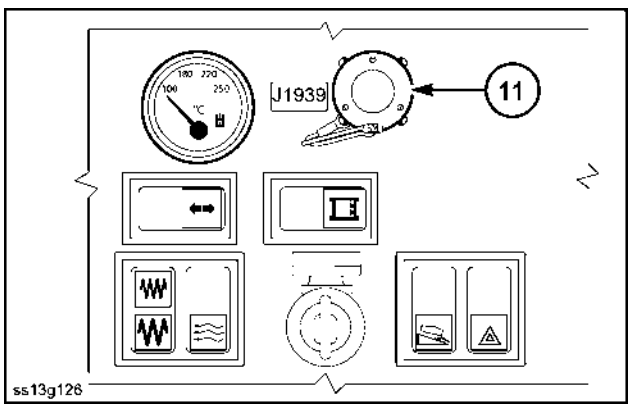
J1939 (11) Diagnostic port

Use the diagnostic port to access the Engine Control Unit (ECU), engine actuator units, fault diagnostics, and parameter adjustments.

NOTE: *The ECU is designed to process data about engine function and to control engine operation.*



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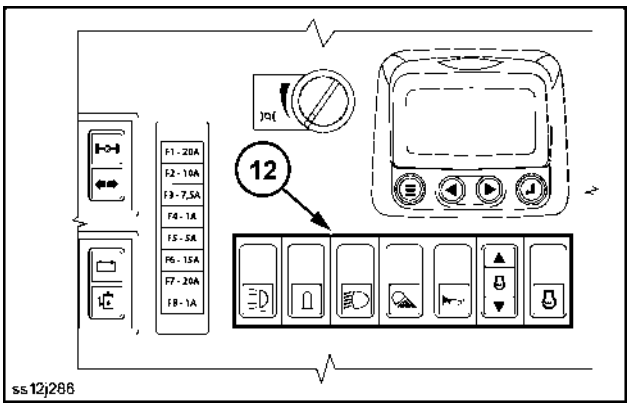
(12) Switch panel



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Auxiliary lights (option)

Press the icon to turn ON the auxiliary lights. Press the blank side of the switch to turn OFF the auxiliary lights.

Fender lights (front and rear) and headlights

This is a three position switch:

- Top position - Press the blank side of the switch to turn OFF the fender lights and headlights.
- Middle position - Press the icon to turn ON the fender lights and illuminate the dashboard control panel
- Bottom position - Press the icon to turn ON headlights.

Rear lights

Press the icon to turn ON the rear work lights. Press the blank side of the switch to turn OFF the rear work lights.

Horn

Press and hold the icon to sound the horn. Release the switch to deactivate the horn.

Engine idle adjustment

Engine idle speed can be adjusted from **800 - 1000 RPM**.

NOTE: *The default setting is **850 RPM** and the manufacturer recommends against adjustment for the reason that other machine parameters are set based off the default idle setting.*

Engine idle switch

This switch must be ON before starting the engine.

NOTE: *This protects the engine from starting at high RPMs typically used during machine operation.*