SV208
SV210
SV212
SV216
Tier 3
Vibratory Roller

SERVICE MANUAL

Part number 47688018
2nd edition English
June 2014
Replaces part number 87480985NA

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)**

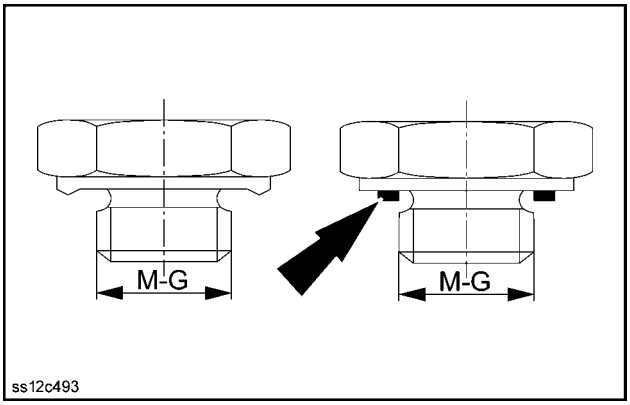

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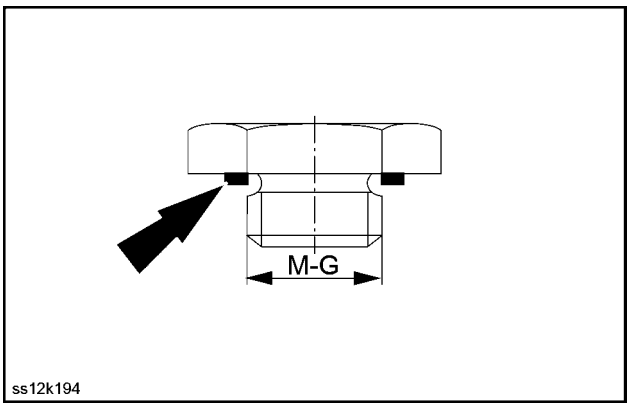
Table for torques of plugs with flat gasket

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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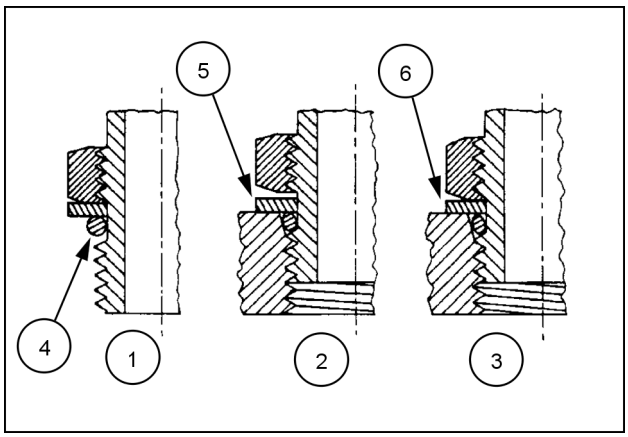
Torque - Standard torque data for hydraulics

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**)

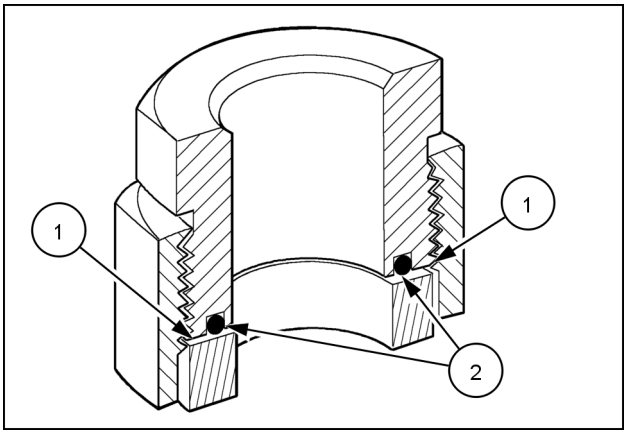
INSTALLATION OF ORFS (O-RING FLAT FACED) FITTINGS

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:

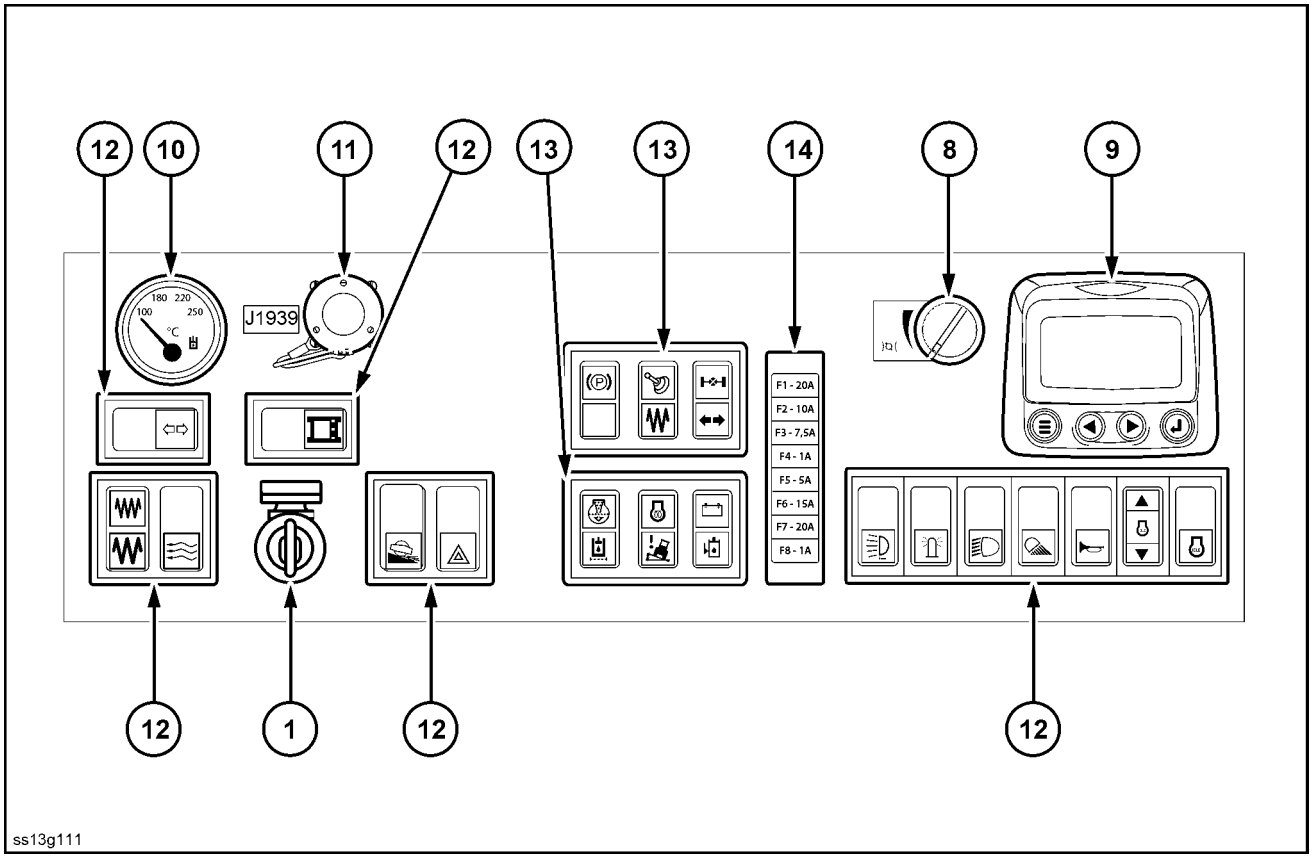
1. Cylinder rod seal leak.
2. Control valve spools do not return to NEUTRAL.
3. The hydraulic system has a high operating temperature.

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



SS13G111 1

Dashboard and control panel identification

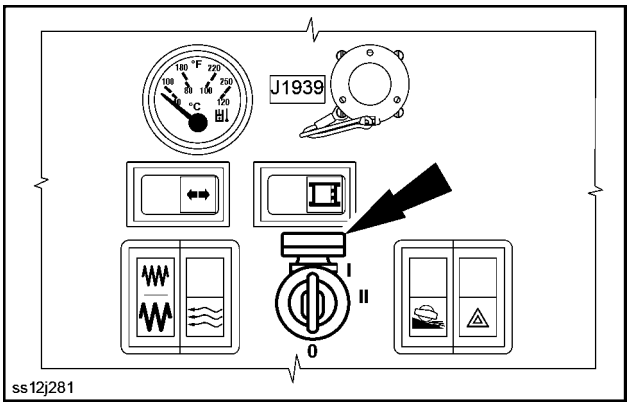
Item	Designation	Item	Designation
1	Ignition switch	11	Engine Control Unit (ECU) diagnostics socket
8	Engine speed selector	12	Switch panel
9	Power View display	13	Indicator lamps
10	Hydraulic oil temperature gauge	14	Fuses

(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.

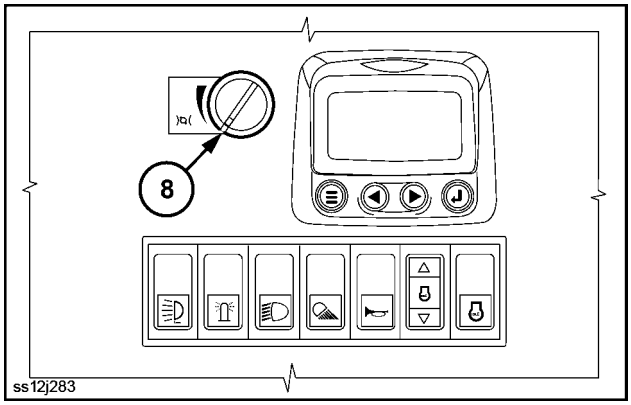
NOTE: *The ignition key is also used to lock and unlock the cab doors, the service hatch underneath the cab, and the tool kit.*



SS12J281 2

(8) Engine speed selector

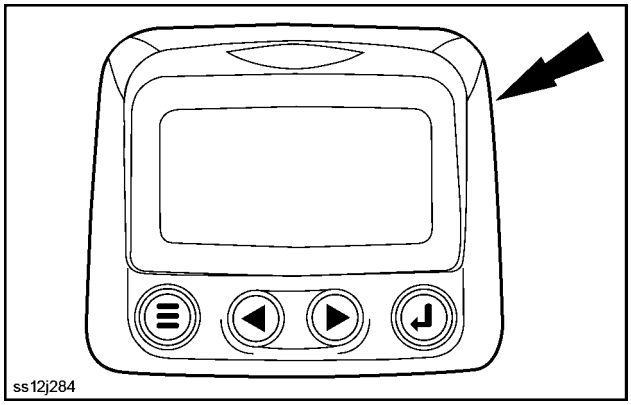
Turn the selector dial to adjust the engine speed from maximum to minimum speed settings.



SS12J283 3

(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.

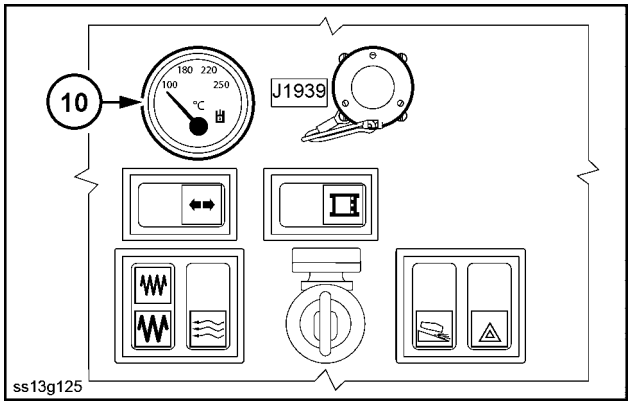


SS12J284 4

(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**)

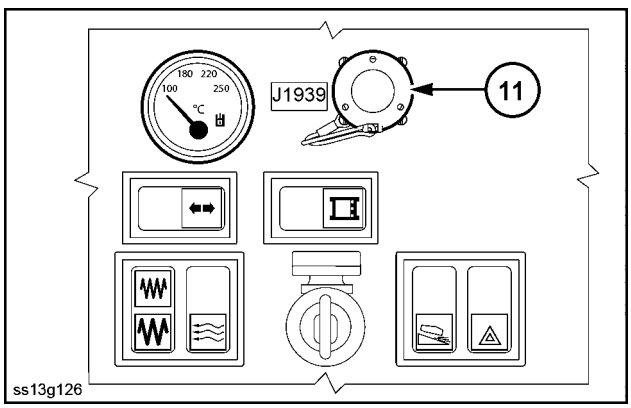


SS13G125 5

J1939 (11) Diagnostic port

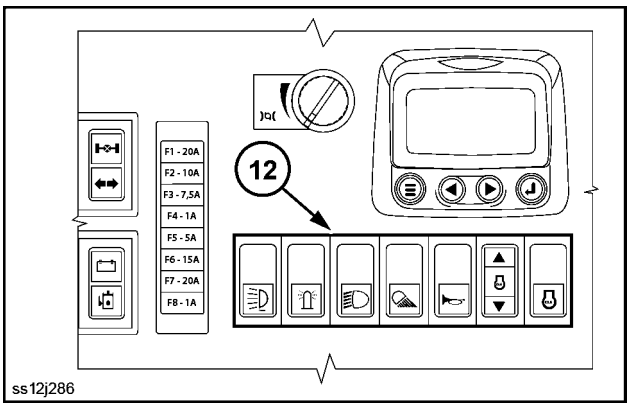
Use the diagnostic port to access the Engine Control Unit (ECU), engine actuator units, fault diagnostics, and parameter adjustments.

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



SS13G126 6

(12) Switch panel



SS12J286 7

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

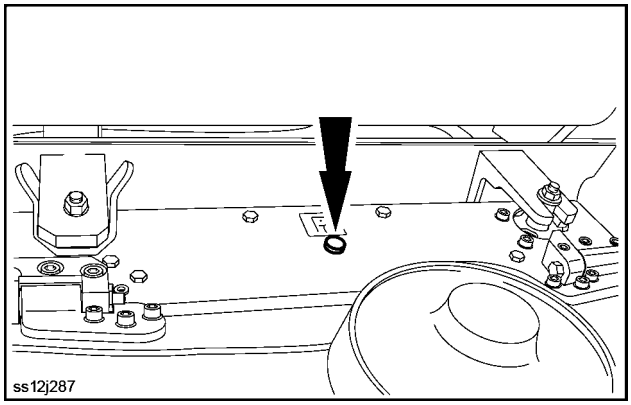
This switch must be ON before starting the engine.

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

Beacon

To use the beacon:

- Plug the beacon cable into the socket on the rear of the machine.
- Press the icon to turn ON the beacon.
- Press the blank side of the switch to turn the beacon OFF.

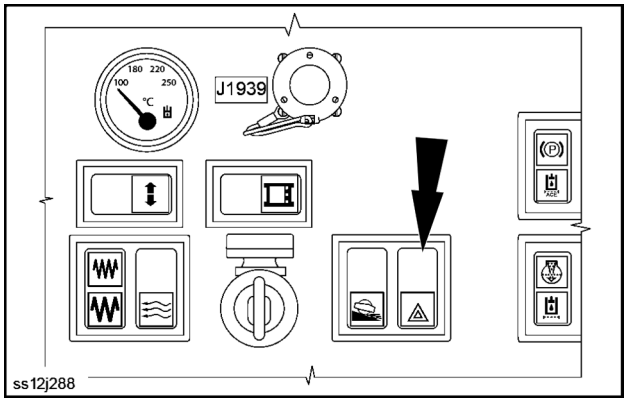


SS12J287 8

Hazard warning lights

Engage hazards to warn others of possible hazardous situations near the machine.

- Press the icon to turn ON the hazard lights.
- Press the blank side to turn OFF the hazard lights.



SS12J288 9

Drum slip limitation switch (option)

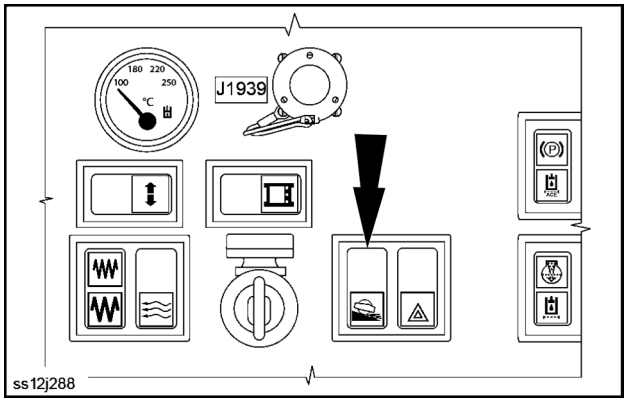
Use only to move the machine onto the loading area of a transport vehicle.

- Press the icon to turn ON the drum slip limitation.
- Press the blank side of the switch to turn OFF the drum slip limitation.

NOTE: *If the machine is equipped with the drum slip limitation option, then the automated Anti-Slip Control (ASC) feature will not activate.*

NOTE: *When the drum slip limitation feature is ON, the vibration feature is blocked.*

NOTE: *The drum slip limitation will not activate if the machine is in transport speed mode . Turn the transport speed switch OFF before using the drum slip limitation function.*



SS12J288 10

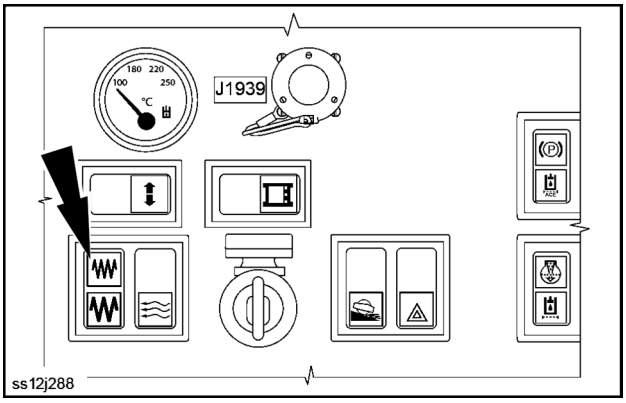
Vibration selector

The vibration selector switch has three positions:

- Top position - High frequency, low amplitude. Recommended for granular materials.
- Middle position - OFF, neither vibration option is selected.
- Bottom position - Low frequency, high amplitude. Recommended for cohesive materials.

NOTE: *Engage the vibration selection before the machine starts to move and stop the machine before changing the vibration selection.*

NOTICE: *It is not recommended to engage or change the vibration selection while the machine is moving. Damage to the machine hydraulic components may occur that will shorten the life of the components.*

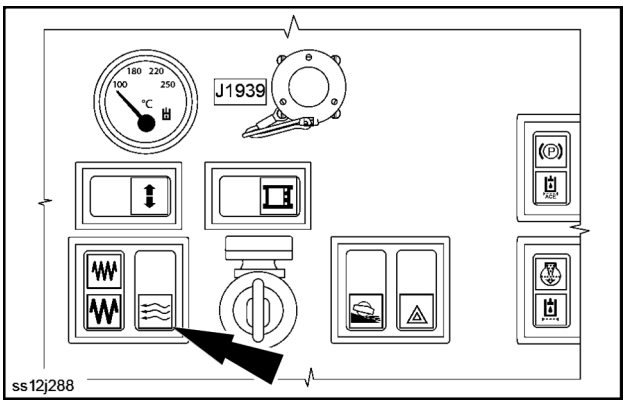


SS12J288 11

Fan switch (cab only)

The three position fan switch will enhance air flow inside the cab.

- Top position - Off
- Middle position - Fan is on high
- Bottom position - Fan is on low

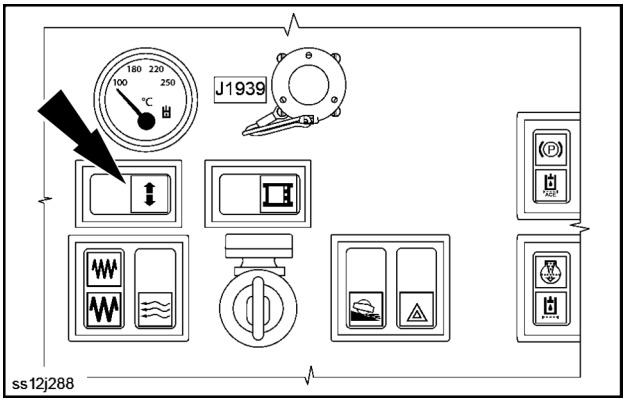


SS12J288 12

Turn signals - direction indicators

Use the turn signals to inform other motorist which direction you intend to turn the machine.

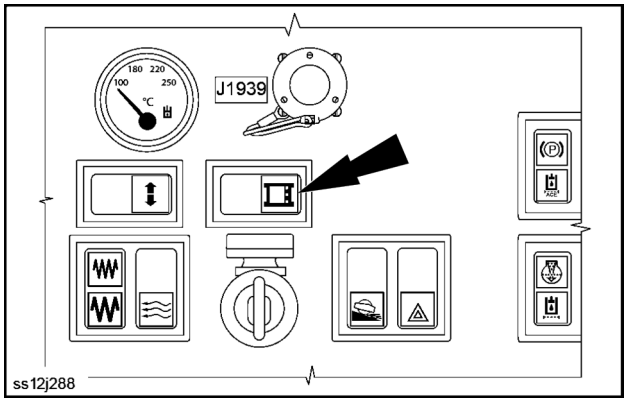
- Press the right side of the switch when turning to the right.
- Press the left side of the switch when turning to the left.



SS12J288 13

Compaction meter switch

NOTE: *The Operator's Manual for the Compaction Meter is supplied separately.*



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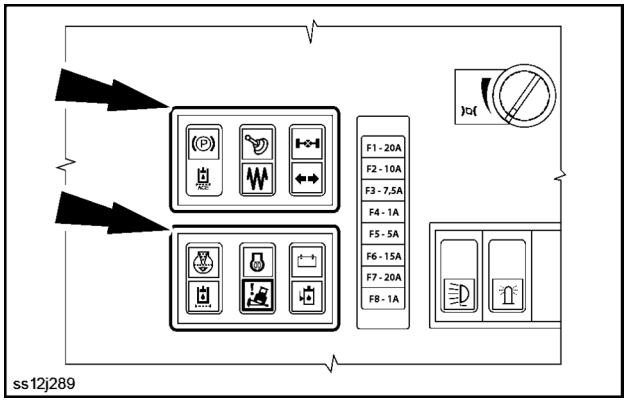
(13) Indicator lamps

Parking brake

The indicator lamp is lit when the parking brake is engaged.



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Vibration

The indicator lamp is lit when vibration is ON.

Direction indicators

The indicator lamp flashes on and off when the turn signal is ON.

NOTICE: *Rapid flashing indicates a failure (defective bulb).*

Travel controller - neutral (idle) position

The indicator lamp is lit when the travel controller is in the neutral position.

NOTICE: *Make sure the travel controller is in neutral before starting the engine.*

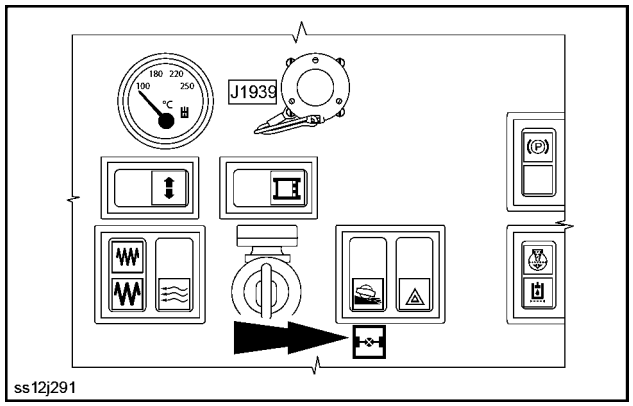
NOTE: *The Anti-Slip Control feature is standard equipment on the SV208 and SV210. It is optional on the SV212 and SV216 models.*

Anti-Slip Control (ASC)

The Anti-Slip Control (ASC) indicator lamp is ON when the ACS system senses a lack of traction. As a result the inter-axle differential lock is engaged. When traction is regained the ACS disengages and lamp turns OFF.

NOTE: *The SV208 and SV210 operators do not control the ASC feature, however the ACS feature will not engage when the drum slip limitation is active or if the transport speed switch is active.*

NOTE: *The SV212 and SV216 operators must press the ASC button (arrow) to activate and deactivate this feature.*



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⚠ WARNING

Roll-over hazard!
Observe the maximum permissible gradient when driving uphill and across the slope. The values given may be lower depending on traction conditions and the actual machine weight.
Failure to comply could result in death or serious injury.

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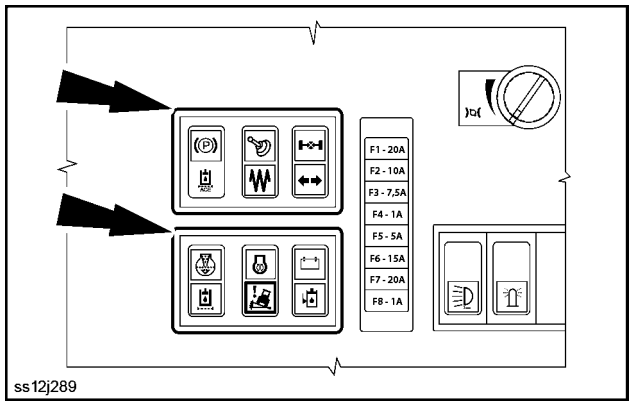


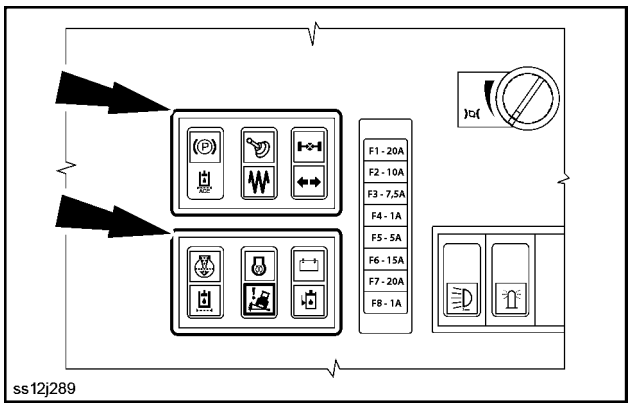
SS12J289 17

ROPS 2D - Roll Over Preventative System

A flickering **ROPS 2D** indicator lamp with an acoustic alarm indicates that the machine is at a hazardous angle during cross travel on a slope. Vibration mode will disengage and will not turn on until the machine is at a safe angle.

Engine preheating

When lit, the engine is preheating because of low ambient temperatures. Wait until the engine preheat lamp is off before attempting to start the engine.



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Hydraulic oil filter clogged

When lit, the hydraulic oil filter clogged.

NOTICE: *Replace the hydraulic oil filter immediately.*

Hydraulic oil level

When the hydraulic oil level indicator lamp is on, the hydraulic oil level in the tank is below the minimum required level. The machine will stop and the engine stalls.

NOTICE: *The engine can be started once the defect has been repaired and oil in the hydraulic tank has been filled up to its recommended level.*

Air filter clogged

When lit, the air filter is clogged.

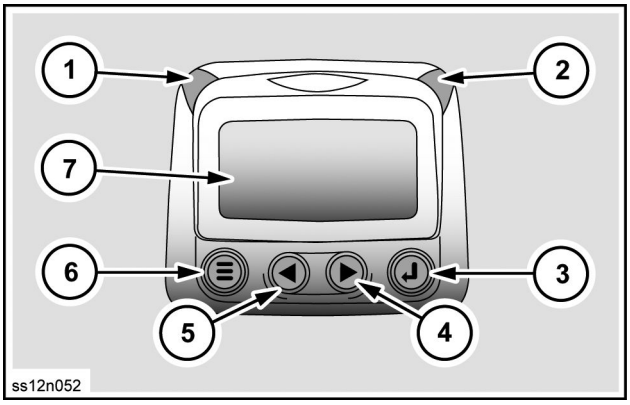
NOTICE: *Replace the air filter immediately.*

Battery lamp

When lit, the machine is using battery power. The light must turn OFF once the machine's engine is started. If the light remains lit while the engine is running, the machine is experiencing a charging issue.

Multifunctional display

Item	Designation
1	WARNING - amber LED lights Alarm for engine failure or minimal fuel level in tank.
2	SHUTDOWN - red LED lights Alarm for major engine malfunction.
3	ENTER Selects the Menu or parameter, and conceals or displays active error codes.
4	RIGHT arrow button - moves cursor up or right Illuminates data on the display or moves the parameter option to the right or down.
5	LEFT arrow button - moves cursor down or left Illuminates data on the display or moves the parameter option to the left or up.
6	MENU selection button To enter or exit Menu.
7	Display



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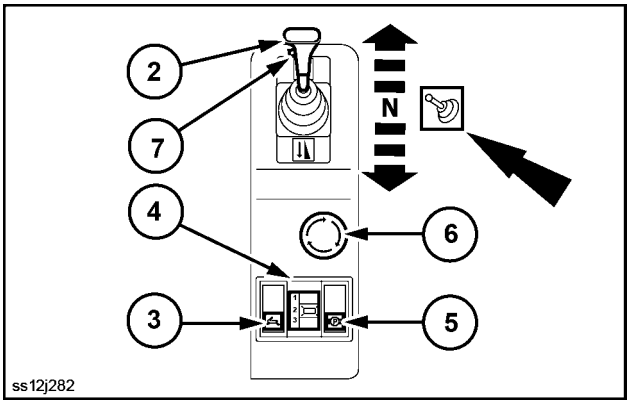
NOTICE: *If the red LED turns ON - reduce engine power, stop the machine immediately at a safe place, and shut off the engine. Do not operate the machine unless the defect has been repaired!*

NOTICE: *The amber LED light indicates engine failure. Reduce engine power, stop the machine immediately at a safe place, and shut off the engine. Do not operate the machine unless the defect has been repaired!*

Right-hand side controls

(2) Travel controller



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This travel controller is used to adjust driving direction and speed. Driving speed corresponds to the degree to which the travel controller is moved from the neutral **(N)** position. The travel controller locks into the position it is moved to. With the travel controller in the neutral **(N)** position the operator may turn the vibrations ON or OFF with the button **(7)** located on the travel controller.

NOTICE: *Move the travel controller to the neutral **(N)** position before starting the engine.*

(3) Transport speed switch

With transport speed switch ON the machine will reach maximum speed at reduced tractive force when the travel controller is moved completely forward or backward.

NOTE: *The operator may press the transport speed switch while the machine is moving.*

NOTICE: *Do not turn off the transport speed at high speed. Sudden deceleration (retardation) will occur followed by an impact within the hydraulic system. Turn off the transport speed at low speeds or when the machine is stationary.*

(4) Speed selector

Select from three operating speeds while driving.

NOTE: *The speed selection is ignored when the transport speed switch* ***(3)*** *is ON.*

(5) Parking brake

Press to engage or disengage the parking brake.

NOTE: *If the machine is stationary and the operator stands up from the seat without first engaging the parking brake; the machine will brake automatically and the engine will shut OFF after* ***8 s****.*

(6) Emergency stop button

In emergency situations press the emergency stop button. The machine immediately comes to a standstill, the engine shuts down, and the parking brake engages.
If the emergency stop button is pressed. The button remains engaged and the machine will not start until it is disengaged. To disengage, turn the push button clockwise approximately 1/4 turn until it releases.

NOTICE: *Only press the emergency stop button in an emergency situation.*

(7) Vibration button

Press the vibration button on the travel controller to engage or disengage vibrations. Vibrations can be turned ON while driving.

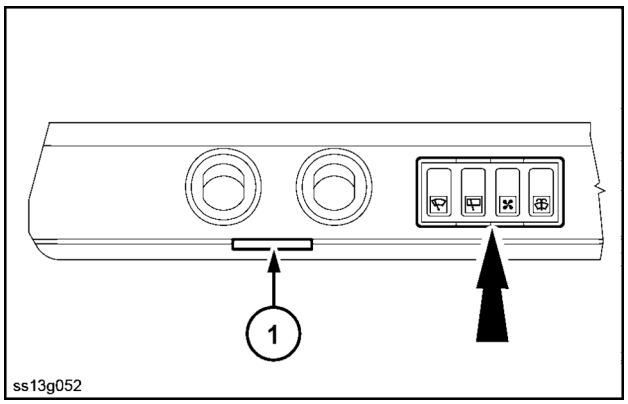
Overhead controls

Front Wiper switch

Rear Wiper switch

Fan switch – fan induces ambient air

Windshield Washer switch



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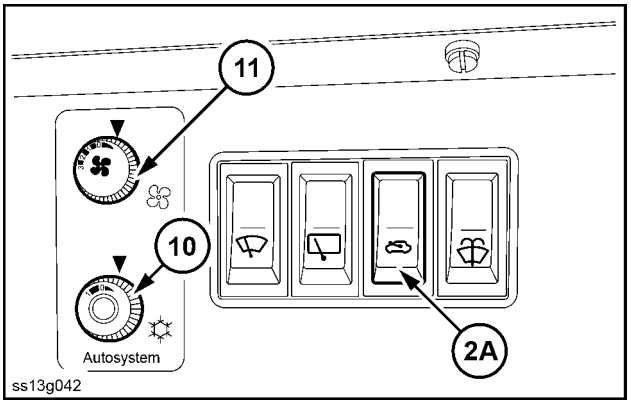
Item	Designation
1	Cab light

Air conditioner (optional)

Item	Designation
10	Air Conditioning switch – ON/OFF and temperature control
11	Fan switch
2A	Air Recirculation switch

NOTICE: *It is recommend that you start the air conditioner at least once every three weeks.*



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Consumables

Engine oil

Engine oil has been specified as per its performance classification and viscosity classification.
Performance classification under:
AMERICAN PETROLEUM INSTITUTE (API)

Viscosity classification

The ambient temperature and type of operations at the place where the machine will be used are decisive in determining SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) viscosity class.

Recommended oil:
– **CASE AKCELA ENGINE OIL 15W-40**
– **CASE AKCELA NO. 1™ ENGINE OIL SAE 15W-40**: All season
– **CASE AKCELA NO. 1™ ENGINE OIL SAE 10W-30**: Winter
– SAE 5W30: Arctic
– API CI-4 oil is recommended
– Year-round: **CASE AKCELA ENGINE OIL 15W-40** , refer to figure **1**.

- Exceeding the low temperature limit will not cause engine damage; but may cause some starting difficulties.
- It is convenient to use universal multi-range oils to avoid the need to change oil due to ambient temperature.
- It is possible to use a synthetic engine oil if the performance and viscosity classifications of the oil correspond to the recommended mineral oils.
- The oil change intervals used must be the same as those for mineral oils.
- To make starting at temperatures below **0 °C** (**32 °F**) easier, the engine manufacturer recommends SAE 10W-30 oil.