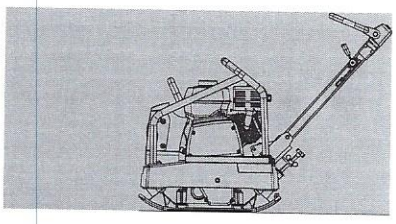
APR 22/40
APR 30/50
APR 30/60
APR 40/60

VIBRATION PLATE

HONDA GX120UT2
HONDA GX270UT2



TRANSLATION OF THE ORIGINAL OPERATING MANUAL

EDITION 10/2019 ML
From Serial No. 00000001

AMMANN

AMMANN

These instructions include:

- Safety regulations
- Operating instructions
- Maintenance instructions

These instructions have been prepared for operation on the construction site and for the maintenance engineer.

These instructions are intended to simplify operation of the machine and to avoid malfunctions through improper operation.

Observing the maintenance instructions will increase the reliability and service life of the machine when used on the construction site and reduce repair costs and downtimes.

Always keep these instructions at the place of use of the machine.

Only operate the machine as instructed and follow these instructions.

Do not fail to comply with the safety provisions, as well as the rules for safety and health protection at work («*BGR 118 - Dealing with moving road construction machinery*») of the German federation of institutions for statutory accident insurance and prevention (HVBG), as well as the applicable accident prevention regulations.

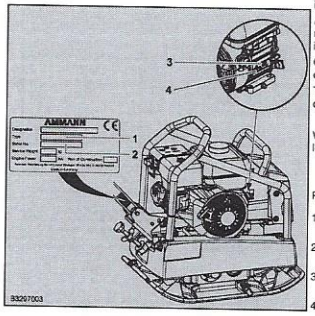
Also observe the corresponding rules and regulations valid in your country.

Ammann Verdichtung GmbH is not liable for the function of the machine when used in an improper manner and for other than the intended purpose.

Operating errors, improper maintenance and the use of incorrect operating materials are not covered by the warranty.

The above information does not extend the warranty and liability conditions of business of Ammann Verdichtung GmbH.

We reserve us the right to take changings due to technical development without announcement.



Please enter (data on machine type plate)

1. Mach.-type: _____
2. Mach.-No.: _____
3. Engine-type: _____
4. Engine-No.: _____

Ammann Verdichtung GmbH
Josef-Dietzgen-StraBe 36 ' 53773 Hennef ' GERMANY
Tel.: +49 2242 8802-0 ' FAX: +49 2242 8802-59
E-Mail: info.avd@ammann.com
www.ammann.com

Printed in Germany Ref.-No. 2-00002057ML 10/2019 AVD

2-00002057ML © Ammann Verdichtung GmbH 10/2019

1. Safety regulations

This Ammann machine has been built according to the state of the art in compliance with the pertinent rules. Nevertheless, these machines can still constitute a hazard to persons and property if:

- not used for the intended purpose,
- not operated by suitably qualified and instructed personnel,
- modified or converted in an improper manner,
- the pertinent safety regulations are not observed

For this reason, any person entrusted with the operation, maintenance or repair of the machine is obliged to read and follow the operating instructions and particulary to observe the safety regulations. If necessary, it must be confirmed by the signature of the company using the machine.

Furthermore, the following must be made known and observed:

- pertinent regulations for the prevention of accidents,
- generally recognised safety rules,
- country-specific regulations

Normal use

The machine is suitable for all compaction jobs in civil works and road construction. All ground materials such as sand, gravel, sludge, crushed stone, asphalt and composite sett paving can be compacted.

Improper use

The machine can constitute hazards if not used by instructed personnell or for other than the intended purpose.

Weighing down and riding on the machine is forbidden.

The machine must not be used on slopes with a gradient of more than 20°.

Do not use the machine on hard concrete, set asphaltic surfaces, highly frozen or unstable surfaces.

Who is allowed to operate the machine?

Only suitable qualified, instructed and authorised persons over 18 years of age may operate the machine.

In variance from this, minors can be employed, as long as it is necessary to their training objective and their protection is assured by a supervisor.

Persons under the influence of alcohol, medication or drugs must not operate, maintain or repair the machine.

Maintenance and repairs, in particular of hydraulic systems and electronic components require special knowledge and must be carried out only by skilled persons (mechanics specialising in construction and agricultural machinery).

Conversions and modifications to the machine

Unauthorised modifications and conversion of the machine are not permitted for safety reasons.

Spare parts and special equipment not delivered by us are also not approved by us. The installation and/or the use of such parts can also have a detrimental effect on the operating safety.

The manufacturer disclaims all liability for any damage resulting from the use of non-original parts or special equipment.

Safety information in the operating and maintenance instructions

The following signs and designations are used in the manual to designate instructions of particular importance:

DANGER is used to indicate an immediately hazardous **situation that,** if not **prevented,** will cause severe injury or death.

Caution is used to indicate a potentially hazardous **situation that,** if not prevented, may cause injury or death.

Environment is used to indicate possible environmental impact, which, if not prevented, may cause damage to the local orglobalenvironment.

NOTICE is used to *indicate a possible risk* of property **damage** *and/or indicates additional information* for the *user, such as operating* tips or cross-references.

Transporting the machine

Only load and transport the machine as specified in the operating instructions.

Only use suitable means of transport and hoisting with sufficient loading capacity!

Attach suitable slinging means to the points of attachment provided.

Secure the machine to prevent it from tilting or slipping.

It is highly dangerous to walk or stand under suspended loads.

Secure the machine on transport vehicles to prevent it from rol- ling, slipping and tilting.

Starting the machine

Prior to starting

Familiarise yourself with the operating and control elements and the mode of operation of the machine and the working environ- ment. This includes, e.g. obstacles in the working area, loading capacity of the ground and the necessary safety provisions.

Use personal protective equipment (safety footwear, hearing protectors, etc.).

Check to ensure that all safety devices are firmly in place.

Do not start the machine if instruments or control devices are faulty.

Starting

For machines with handstart, only use the safety cranks tested by the manufacturer, and precisely follow the operating instructions of the engine manufacturer.

To crank-start diesel engines: Important is the correct position to the engine and the correct hand position on the crank.

The handcrank must be turned with maximum force until the engine starts, otherwise the crank can rebound.

Precisely follow the starting and stopping procedures specified in the operating instructions and observe indicator lights.

Only start and operate machines with an electrical starter from the instrument panel.

Starting and operation of the machine in potentially explosives atmospheres is forbidden!

Starting with battery junction cables

Connect «*positive*» to «*positive*» and «*negative*» to «*negative*» (earthing lead). Always connect the earthing lead last and disconnect first! Incorrect connection will cause serious damage to the electrical system.

2-00002057ML © Ammann Verdichtung GmbH 10/2019

Starting in enclosed spaces, tunnels, mines or deep ditches

Engine exhaust gas are highly dangerous!

For this reason, when operating the machine in enclosed spaces, tunnels, mines or deep ditches, it is important to ensure that there is sufficient air to breath (see UVV «*Construction work*», BGV C22, paragraphs 40 and 41).

Machine control

No persons may reside within the work area of the machine!

Operating devices which adjust themselves automatically when released in normal use, must not be locked.

Check protective devices and brakes for proper functioning prior to operation.

When reversing, particularly on the edges and banks of ditches, as well as in front of obstacles, the machine operator cannot fall or be crushed.

Always keep a safe distance away from the edges and banks of ditches and refrain from any actions which could cause the machine to topple over!

Always control the machine, so that hand injuries through hard objects are avoided!

Always ascend slopes carefully in a direct path.

Reverse up steep slopes to prevent the machine from toppling over on to the machine operator.

If faults on the safety devices or other faults detrimental to the safe operation of the machine are noticed, operation of the machine must be stopped immediately and the faults remedied.

When undertaking compaction work in the vicinity of buildings or above pipelines and similar, check the effect of the vibrations on the buildings and pipes and stop compaction work if necessary.

Parking the machine

Park the machine on a firm and level surface.

Shutdown the drive and secure it to prevent accidental move- ment and unauthorised use. If available, close the fuel valve. Do not place or store equipment with integrated moving gear on the chassis. The moving device is intended only for transportation purposes.

Filling petrol

Only fill petrol by switched-off engine.

No open fire, do not smoke.

Do not spill any fuel, collect discharging fuel in a suitable contai- ner, prevent fuel from seeking into the soil.

Ensure that the filler cap is tight.

Leaky fuel tanks constitute an explosion hazard and must there- fore be replaced immediately.

Maintenance and repairs

Observe the maintenance, inspection and adjustments and intervals specified in the operating instructions, as well as the information for part replacement.

Maintenance work must be undertaken only by qualified and authorised persons.

Maintenance and repairs only by switched-off drive.

Only carry out maintenance and repairs when the machine is parked on a firm and even surface and is secured to prevent it from rolling.

When changing larger assemblies and individual components, only use suitable and perfectly functioning hoistings and lifting gears with suitable loading capacity. Attach and secure parts on hoisting carefully!

Spare parts must comply with the technical requirements of the manufacturer. Therefore only use original spare parts.

Hydraulic lines must previously be rendered pressureless, before working on them. Hydraulic oil discharging under pres- sure can cause serious injuries.

Work on hydraulic devices must be undertaken only by persons with a special knowledge of hydraulics and the necessary ex- perience!

Do not adjust pressure relief valves.

Drain hydraulic oil at operating temperature—caution risk of scalding!

Collect discharging hydraulic oil and dispose of the same in an environmentally-friendly manner.

Do not start the engine when hydraulic oil has been drained off.

After completing all work (by pressureless system), inspect all connections and bolted connections for leaks.

Inspect all hoses and bolted connections for leaks at regular intervals and externally visible damage! Rectify any damage immediately.

Replace externally damaged hydraulic hoselines at regular intervals (depending on time used), even when no safety-rele- vant faults are visible.

Before working on the electrical system of the machine, discon- nect the battery and insulate by covering or remove.

Inspect the electrical equipment of the machine at regular intervals. Faults such as loose connections, worn or scorched cables must be immediately eliminated.

During transport, secure the battery to prevent it from tilting, short-circuit, slipping and damage.

Dispose of used batteries in a proper manner.

Do not place any tools on the battery.

Handling acid-batteries

Transport filled batteries upright to prevent acid spillage.

Keep away from sparks, open fire and other sources of ignition.

Avoid contact of acid with skin and clothing. In case of contact, wash off acid immediately with clear water and go to medical institution.

Properly refit and inspect all protective devices after main- tenance and repairs.

Testing

Road rollers, trench rollers and vibrating plates must be tested for safety by an expert depending on the particular application and operating conditions as required, however at least once a year.

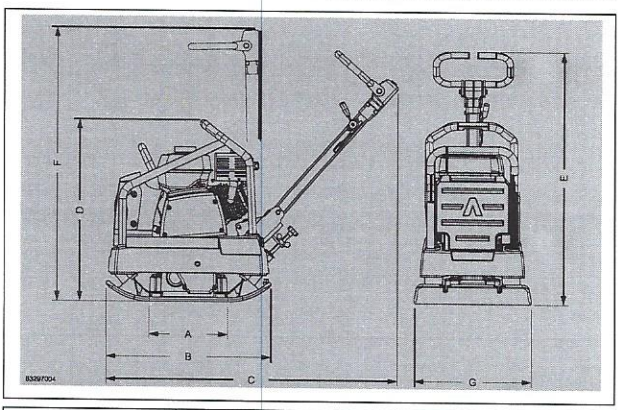
Disposal of the machine after finish of its service life

At disposal of the machine after finish of its service life, the owner is obliged to comply with national regulations and laws on wastes and protection of environment. Therefore we recommend in such cases to contact the following:

- professional specialized companies engaged in such activities and having the relevant certificate
- the manufacturers or contracting service organizations authorized by him.

The manufacturer is not responsible for damages to health of owners neithor for damages to the environment in events of failing to comply with above mentioned hygienic and ecological principles.

2. Technical data



	APR 22/40	APR 30/50	APR 30/60	APR 40/60
1. Dimensions				
A	254 mm | 10.00 in	330 mm | 12.99 in	330 mm | 12.99 i	410 mm | 16.14 in
B	600 mm | 23.62 in	700 mm | 27.56 in	700 mm | 27.56 in	860 mm | 33.86 in
C	1140 mm | 44.88 in	1140 mm | 44.88 in	1140 mm | 44.88 in	1364 mm | 53.7 in
D	625 mm | 24.61 in	765 mm | 30.12 in	765 mm | 30.12 in	780 mm | 30.71 in
E	1000 mm | 39.37 in	1000 mm | 39.37 in	1000 mm | 39.37 in	1000 mm | 39.37 in
F	1180 mm | 46.46 in	1180 mm | 46.46 in	1180 mm | 46.46 in	1180 mm | 46.46 in
G	400 mm | 15.75 in	500 mm | 19.69 in	600 mm | 23.62 in	600 mm | 23.62 in
2. Weights				
Basic unit	100 kg | 220.46 lb	199 kg | 438.72 lb	199 kg | lb	263 kg | 580 lb
Transport carriage	+8.7 kg | 19.18 lb	+ 9.3 kg | 20.50 lb	+ 9.3 kg | lb	—
3. Drive				
Engine-type	Honda GX160UT2	Honda GX270UT2	Honda GX270UT2	Honda GX270UT2
Type of construction	1-cylinder 4-stroke gasoline engine			
Power	4.8 hp | 3.6 kW	8.0 hp | 6.0 kW	8.0 hp | 6.0 kW	8.0 hp | 6.0 kW
by speed	3600 rpm	3100 rpm	3100 rpm	3100 rpm
Cooling system	Air cooled			
Fuel consumption	1.4 l/h | 0.4 US gal	2.1 l/h | 0.555 US gal	2.1 l/h | 0.555 US gal	2.1 l/h | 0.555 US gal
max. sloping position	20°	20°	20°	20°
max. grade ability	35 %	35 %	35 %	35 %

2. Technical data

	APR 22/40	APR 30/50	APR 30/60	APR 40/60
Drive	via centrifugal clutch and V-belt			
Shift (forward/reverse)	hydraulic			
4. Speed				
Operating speed	0 - 22 m/min | 0.82 mph	0 - 26 m/min | 0.97 mph	0 - 26 m/min | 0.97 mph	0 - 29 m/min | 1.08 mph
5. Vibration				
Centrifugal force	23 kN | 5171 lbf	32 kN | 7194 lbf	32 kN | 7194 lbf	42 kN | 9442 lbf
Vibration frequency	98 Hz	90 Hz	90 Hz	65 Hz
6. Maximum performance				
Performance (Surface)	up to 528 m²/h | 5683 ft²/h	up to 780 m²/h | 8396 ft²/h	up to 936 m²/h | 10075 ft²/h	up to 1044 m²/h | 11238 ft²/h
7. Filling quantities				
Fuel tank	3.1 l | 0.8 US gal	5.3 l | 1.4 US gal	5.3 l | 1.4 US gal	5.3 l | 1.4 US gal
8. Special equipment				
Wear protective plate	X	X	X	X
Transport carriage	X	X	X	X
Operating hour meter	X	X	X	X
	X = Special equipment / S = Serial / — = Not available			

9. Noise and vibration data

The following noise and vibration data according to EC Machinery Directive in the version (2006/42/EC), was determined, taking into account the following standards and directives. In operational use, values can deviate depending on the prevailing conditions.

9.1 Noise data[2]

The noise data specified in Appendix 1, sub-clause 1.7.4.u of the EC Machinery Directive is for:

The sound pressure level at the operator place is L_{pA}	91.3	92.3 dB	92.3 dB	103.7 dB
Measured sound power level $L_{WA,m}$	105 dB	105 dB	105 dB	105 dB
Guaranted Sound power level $L_{WA,g}$	108 dB	108 dB	108 dB	108 dB

The noise values were determined, taking into account the following directives and standards:
Directive 2000/14/EC / EN ISO 3744 / EN 500-4

9.2 Vibration data

Hand/arm vibration values according to Appendix 1, sub-clause 3.6.3.1 of the EC Machinery Directive:

Total vibration value of the acceleration a_{hv}	< 2.5 m/s² | 8.2 fps²	< 2.5 m/s² | 8.2 fps²	< 2.5 m/s² | 8.2 fps²	< 2.5 m/s² | 8.2 fps²
Uncertainty K	0.5 m/s² | 1.64 fps²			

The acceleration value was determined, taking into account the following directives and standards:
EN 500-4 / DIN EN ISO 5349

[2]Since the permissible noise rating level of 85 dB(A) can be exceeded with this machine, the operator must wear suitable hearing protection.

3. Operation

3.1 Description

Machines of the APR series are reversible vibration plates that work according to the 2-wave vibration system.

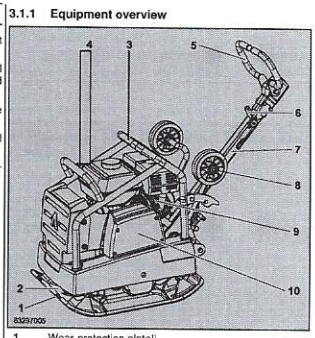
The engine drives the exciter on the baseplate via a centrifugal clutch and a V-belt. The exciter produces the vibration required for compaction as a result of the built-in imbalance.

The machine is guided at the drawbar grip. It is operated with the operating controls on the drawbar.

APR series machines are suitable for all compaction work in civil engineering and road building.

It can be used to compact all ground materials such as sand, gravel, slag, crushed stone, asphalt and composite sett paving.

3.1.1 Equipment overview

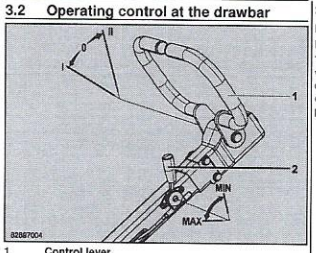


1 Wear-protection plate[1]
2 Base plate with Exciter
3 Central-point suspension
4 Operating hour meter[1]
5 Drawbar grip/Drive lever
6 Engine speed control lever
7 Drawbar
8 Transport carriage[1]
9 Engine
10 Centrifugal clutch

[1]Special equipment

3. Operation

3.2 Operating control at the drawbar



1 Control lever

The control lever serves for adjustment of the unbalances in the exciter and in turn for coninuous regulation.

I Forward
0 Point compacting
II Reverse

The control lever remains automatically in position only when set to the maximum forward travel setting (a). In any other position, the control lever moves in the direction of maximum forward travel when released.

If the control lever is operated too quickly several times, the shift lever will block in reverse travel. In this case:

- Release lever in forward travel position up to maximum forward travel position.
- Blocking is cleared within a few seconds and perfect shifting is possible.

The control lever can be operated only with the engine running. The lever blocks if operated when the machine is stationary. Blocking is immediately cleared when the engine is restarted.

2 Engine speed control lever

MIN Idle (detent position)
MAX Full load

The engine speed can be adjusted steplessly with the control lever. At minimum engine speed (min), the drive to the exciter is disconnected at the centrifugal clutch and the engine idles. The centrifugal clutch engages when the control lever is moved approximately ¹/₄ of its adjustment travel.

3.3 Before operation

Danger to life, danger of injury.

Failure to follow this manual and all the safety instructions it contains can result in death, injury or property damage.

- Carefully read and follow this manual and especially the safety instructions.
- Failure to follow this manual and all the safety instructions it contains can result in death, injury or property damage.
- Read and observe the engine operating manual and its instructions on safety, operation and maintenance contained in them.

Injury hazard.

Failure to use personal safety equipment (PSE) or using unsuitable equipment, may harm heath or cause injury.

- Personal safety equipment includes:
  - Ear protection
  - Safety shoes
  - Work gloves
  - Breathing protection
- Determine and prepare the right personal safety equipment for the job.
- Use only personal safety equipment that is in proper condition and offers effective protection.

- Stand the machine on an even surface.
- Check
  - the Engine oil level,
  - the hydraulic oil level,
  - the fuel supply,
  - that screw connections are secure,
  - condition and function of hydraulic hose lines,
  - the condition of the Engine and the machine.
- Top-up any missing lubrication in accordance with the lubrication table.

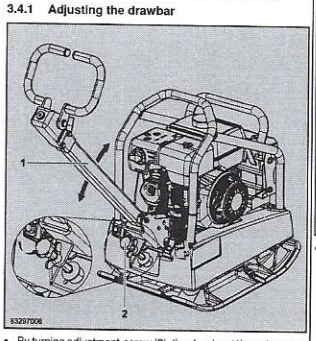
3.4 Adjusting / Locking the drawbar

Beware of material damage.

If the shaft is locked during normal operation, parts of the locking mechanism can be damaged.

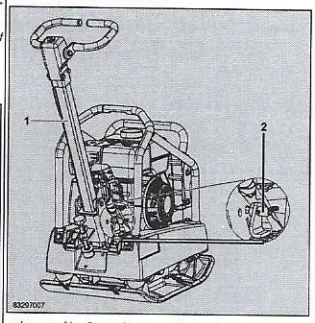
- *Never lock the shaft during normal operation.*

3.4.1 Adjusting the drawbar



- By turning adjustment-screw (2), the drawbar (1) can be set to any positions so as obtain the best working height on the drawbar grip.

3.4.2 Locking the drawbar



- In case of loading and transport the drawbar (1) has to be locked in an upright position by turning up the locking bolt (3.

3.5 Engine operation

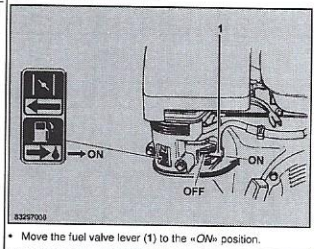
Death hazard from exhaust inhalation.

In closed or poorly ventilated spaces, poisonous engine exhaust can cause unconsciousness or even death.

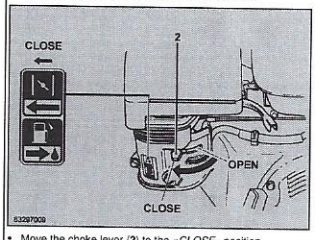
- Never operate the device in closed or poorly ventilated rooms.
- Do not inhale exhaust.

- *Do not activate the choke when the engine is warm.*
- *If the engine doesn't start, set the gas lever about a third of the way to «MAX».*
- *Do not let the starter grip snap back against the engine. Guide it back slowly so that the starter doesn't get damaged.*
- *In emergencies, turn the engine switch to «OFF» to shut off the engine.*

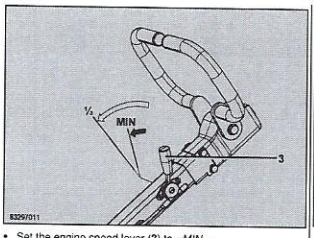
3.5.1 Starting the Engine



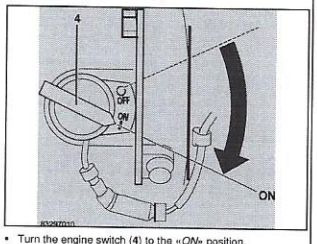
- Move the fuel valve lever (1) to the «*ON*» position.



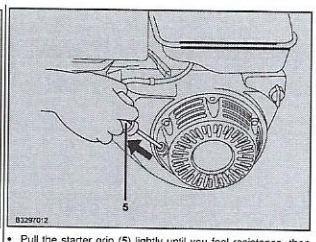
- Move the choke lever (2) to the «*CLOSE*» position.



- Set the engine speed lever (3) to «*MIN*».

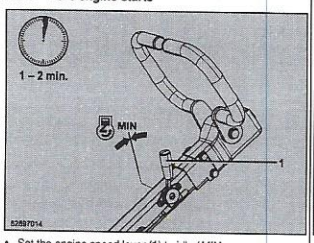


- Turn the engine switch (4) to the «*ON*» position.

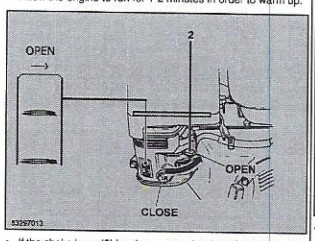


- Pull the starter grip (5) lightly until you feel resistance, then pull briskly in the direction of the arrow as shown below.
- Return the starter grip gently.

3.5.2 If the engine starts

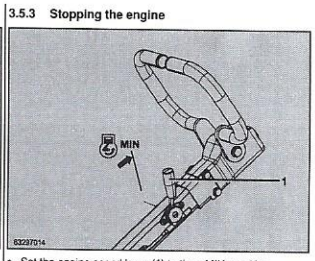


- Set the engine speed lever (**1**) to idle (*MIN*).
- Allow the engine to run for 1-2 minutes in order to warm up.

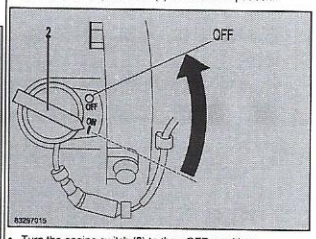


- If the choke lever (**2**) has been moved to the «*CLOSED*» position to start the engine, gradually move it to the «*OPEN*» position as the engine warms up.

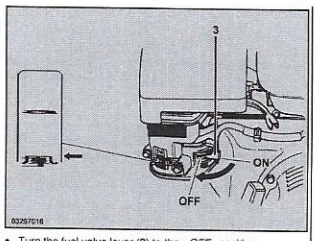
3.5.3 Stopping the engine



- Set the engine speed lever (**1**) to the «*MIN*» position.



- Turn the engine switch (**2**) to the «*OFF*» position.



- Turn the fuel valve lever (**3**) to the «*OFF*» position.

3.6 Operation

Death hazard from tilting or sliding the machine.

Slippery material, unstable edges and smooth surfaces can cause the machine to tip over or skid. This can cause severe injury or death.

- Navigate slopes carefully, and always drive upward in a straight direction.
- Drive up steep slopes backwards to keep from tipping the machine.
- At ditch edges and terraces, and in front of obstacles, guide the machine so that the machine operator cannot be injured by falling or crushing.
- When driving the machine backwards, guide the machine sideways to prevent the machine operator from being crushed.
- Keep adequate distance from trench edges and embankments.
- Refrain from any work method that impairs the machine's stability.
- Do not drive on hard concrete, hardened bitumen surfaces, or ground that is frozen solid or does not have adequate load capacity.

Notice

Hazard from coupling damage.

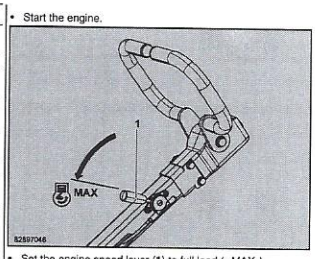
- *Operate the machine only at full throttle.*
- *During short breaks, set the idle RPM.*

Notice

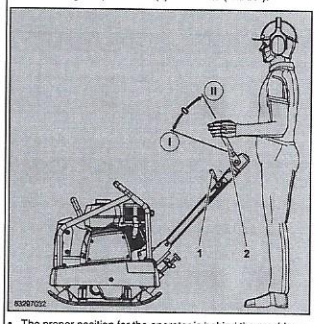
Beware of material damage.

- *When compacting interlocking paving stones, it is recommended that wear-protection plates (optional equipment) be used to prevent damage to the machine and compaction materials.*

- Start the engine.

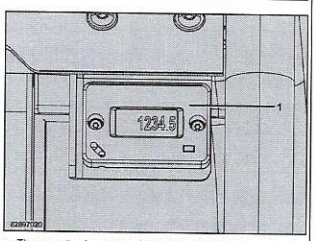


- Set the engine speed lever (**1**) to full load (=*MAX*=).



- The proper position for the operator is behind the machine.
- Control and steer the machine using the drawbar grip/drive lever (**2**).
- Set the travel direction and speed with the drawbar grip/drive lever (**2**).

3.7 Operating hour meter[1)]



- The operating hour meter (**1**) can be used to call up various information
  - Operating hours in whole hours.
  - Engine oil and air filter replacement intervals are shown:

Engine oil & air filter replacement intervals			
	1. Serv.-Alarm	**2. Serv.-Alarm**	**3. Serv.-Alarm**
Display	CHG OIL	CHG OIL	CHG Air Filter
Interval	20 hours	100 hours	50 hours
Count down	—	25 hours before	25 hours before
Blinking time 2 hours			

[1)] Special equipment

3.8 Wear-protection plate[1)]

When compacting interlocking stone pavement, it is recommended that wear-protection plates be used. This prevents damage to the machine and the material to be compacted.

The following models of wear protection plates are available:

		Version 1	Version 2
Machine type	**Width Item No.**	**Tool required**	**Installable without tools**
APR 22/40	400 mm AF-O-2208110	–	+
APR 30/50	500 mm AF-O-2908100	–	+
APR 30/60	600 mm AF-O-3208110	+	–
APR 40/60	600 mm AF-O-3408200[2)]	–	+

[1)]Special equipment.

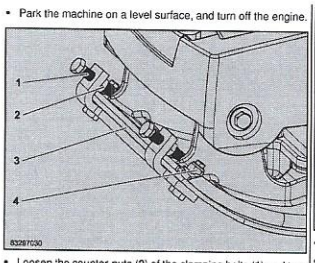
3.8.1 Installation version 1

Injury hazard from improper lifting and transport.
Crushing hazard from falling or tilting of the machine.
- For lifting, only the central point suspension installed as standard is to be used.
- Use only suitable lifting equipment with adequate load capacity.
- Never walk under suspended loads.

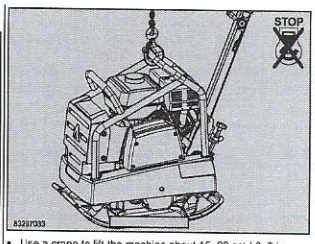
Injury hazard from improper installation work.
- Perform installation work only with the engine off, on level ground, and with the utmost caution.
- Use personal safety equipment.
- Use only perfect tools.
- Never use damaged parts.

- *Check whether all parts are*
  - *complete,*
  - *undamaged,*
  - *and clean.*
- *o ensure that the machine runs perfectly, every 5 hours, check the Vulkollan plate and tense it, if necessary.*

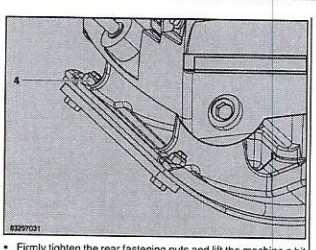
- Park the machine on a level surface, and turn off the engine.



- Loosen the counter-nuts (2) of the clamping bolts (1) and turn the clamping bolts back a bit.



- Use a crane to lift the machine about 15–20 cm | 6–8 in.
- Position the protection plate (3) under the machine and hang it in the base plate on both sides.
- Install the fastening nuts (4) with the clamping bolts on both sides, and screw them on slightly — do not tighten.
- Align the protection plate centrally and lower the machine.



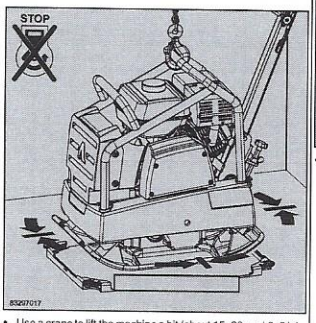
- Firmly tighten the rear fastening nuts and lift the machine a bit again.
- Tense the protection plate uniformly by tightening the adjustment screw. The gap between the base plate and protection plate should be about 4–5 mm.
- Lower the machine.
- Tighten the counter-nuts and front fastening nuts.

3.8.2 Installation version 2

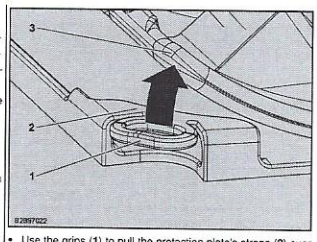
Injury hazard from improper lifting and transport.
Crushing hazard from falling or tilting of the machine.
- For lifting, only the central point suspension installed as standard is to be used.
- Use only suitable lifting equipment with adequate load capacity.
- Never walk under suspended loads.

Injury hazard from improper installation work.
- Perform installation work only with the engine off, on level ground, and with the utmost caution.
- Use personal safety equipment.
- Use only perfect tools.
- Never use damaged parts.

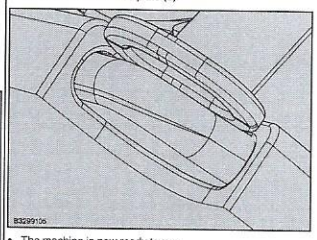
- *Check whether all parts are*
  - *complete,*
  - *undamaged,*
  - *and clean.*



- Use a crane to lift the machine a bit (about 15–20 cm | 6–8 in).
- Position the protection plate centrally under the machine.
- Lower the machine and place it on the protection plate.



- Use the grips (1) to pull the protection plate's straps (2) over the corners of the base plate (3).



- The machine is now ready to use.

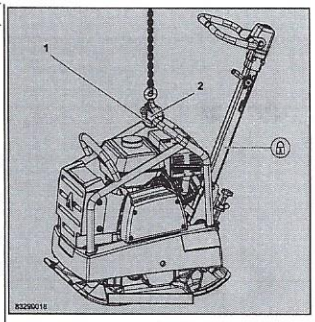
4.1 Loading and transportation

Death hazard from suspended load!
Crushing hazard from falling or tilting of the machine.

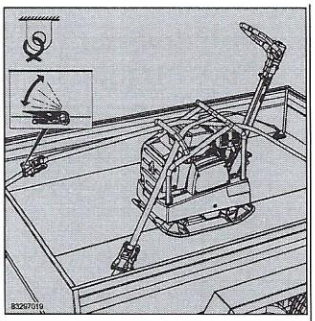
- It is forbidden to
  - walk under suspended loads,
  - stand under suspended loads,
  - ride on suspended loads.
- Ensure that no persons will be endangered.
- Only use sufficiently strong and secure loading ramps when loading.
- Check the contact points (frame, lifting rings) before use for damage and wear. Immediately replace damaged parts.
- Secure the machine against rolling or slipping off and against tipping over.
- When loading, lashing down and lifting the machine always use the provided lifting points.
- After loading, lock or remove the drawbar.

Injury hazard from overloading the body!
Caution
Lifting the device for transport or change of location can cause injury (such as back injuries).

- Lift the machine with lifting equipment.



- To lift the machine, hook the crane hook (**1**) into the central point suspension (**2**).



- After loading, the machine has to be attached in place.

5.1 General notes

Careful maintenance:

- ⇨ **Increased service life.**
- ⇨ **Increased function.**
- ⇨ **Reduced downtimes.**
- ⇨ **Increased reliability.**
- ⇨ **Reduced repair costs.**

- **Observe the safety regulations!**
- **Maintenance works should only be carried out when the engine is shut off.**
- **The engine and machine should be cleaned thorougly before carrying out maintenance work.**
- **Park the machine on a flat surface and secure it against rolling away and slipping.**
- **Ensure that operating materials and replaced parts are disposed of safely and in an environmentally - friendly way.**
- **Before commencing work on any electrical equipment, disconnect the battery and cover it with insulating materials.**
- **Do not confuse «*PLUS*» and «*MINUS*» poles on the battery.**
- **It is essential that short-circuits be prevented in cables carrying current.**
- **Burn-out lightbulbs in indicator lamps should be replaced immediately.**
- **When cleaning the machine with a high-pressure water jet, do not spray the electrical components directly.**
- **After washing the components, blow-dry them with compressed air in order to prevent surface leakage current and corrosion.**
- **When carrying out welding work on the engine or machine,earth the welding instrument as close as possible to the welding point and disconnect the battery.**

5.2 Maintenance schedule

Works \ Intervals	Daily	20 h	50 h	100 h	200 h	250 h	400 h	If necessary
Clean machine	■							
Check engine oil level[1)]	■							
Change engine oil[1)]		■[3)]		■				
Clean fuel filter[1)]				■				
Change fuel filter[1)]								
Check air filter[1)]	■							
Change air filter element[1)]								(■)
Check valve clearance[1)]		■[3)]				●		
Exciter: Check oil level			■					
Exciter: Change oil[2)]				■[3)]		■		
Check hydraulic oil level	■							
Change hydraulic oil								■
Check the hydraulic hose lines[2)]				■				
Check rubber buffers				■				
Check V-belt				■				
Check screwed connections for tightness		■[3)]		■				

[1)] See engine operating manual.
[2)] Minimum once a year.
[3)] For the first time.

5.3 Lubrication schedule

Lubrication point	Quantity	Change intervalls [Operating hours]	Lubrication	Order-No.
1: Engine				
APR 22/40	0.58 l | 0.153 US gal	First time after 20 h; then every 100 h	Engine-oil API SG-CE SAE 10W40	2-80601100
APR 30/50	1.10 l | 0.291 US gal			
APR 30/60				
APR 40/60				
2: Exciter				
APR 22/40	0.50 l | 0,132 US gal	First time after 100 h; then every 500 h or annually	Engine-oil API SG-CE SAE 10W40	2-80601100
APR 30/50	0.75 l | 0.198 US gal			
APR 30/60				
APR 40/60	1.00 l | 0.264 US gal			
3: Hydraulic				
APR 22/40	0.17 l | 0.045 US gal	not necessary	Hydro-Oil HVLP 46	2-80601070
APR 30/50				
APR 30/60				
APR 40/60	0.65 l | 0.172 US gal			

6.1 General note

Notice

- *This manual lists only the daily engine maintenance tasks. Follow the engine's operating manual and the warnings and intervals shown therein.*

6.2 Fuel system

Death hazard from flammable substances.

Petrol is extremely flammable and explosive. During tank fill-ups, this can cause burns, severe injuries or death.

- Fill the tank only when the engine is off.
- No open flame.
- No smoking.
- Do not fill the tank in enclosed spaces.
- Do not inhale fuel fumes.
- Do not spill fuel. If fuel spills, clean it up immediately.

Environment

Pollution hazard from spilt fuel.

- Do not overfill the fuel tank and do not spill any fuel.
- Collect escaping fuel and dispose of it according to local environmental regulations.

6.2.1 Fuel quality

- The engine is certified to operate on unleaded gasoline with a research octane rating of 91 or higher (pump octane rating of 86 or higher).
- You may use unleaded gasoline containing no more than 10% ethanol (E10) or 5% methanol by volume.
- In addition, methanol must contain cosolvents and corrosion inhibitors.
- Use of fuels with content of ethanol or methanol greater than shown above may cause starting and/or performance problems.
- It may also damage metal, rubber, and plastic parts of the fuel system.
- Engine damage or performance problems that result from using a fuel with percentages of ethanol or methanol greater than shown above are not covered under the Warranty.

6.2.2 Fuel capacities

Machine type	Engine type	[Liter]	[US gal]
APR 22/40	Honda GX160UT2	3.1	0.820
APR 30/50	Honda GX270UT2	5.3	1.400
APR 30/60	Honda GX270UT2	5.3	1.400
APR 40/60	Honda GX270UT2	5.3	1.400

6.2.3 Filling-up with fuel

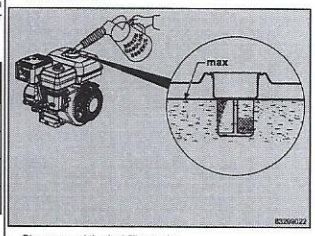
Notice

Beware of engine damage.

Using poor-quality or contaminated fuel can cause engine damage.

- *Use only fuel that meets the designated specifications.*
- *Never use stale or contaminated petrol or an oil/petrol mixture.*
- *Ensure that neither dirt or water gets into the fuel tank.*

- Park the machine on an even, level surface.
- Stop the engine.



- Clean around the fuel filler socket.
- Open the fuel filler socket and visually check the fuel level. Refill the tank if the fuel level is low.
- Add fuel to the bottomof the maximumfuel level limit of the fuel tank. Do not overfill. Use unleaded automotive gasoline only.
- Wipe up spilled fuel before starting the engine.
- Close the tank tightly.

6.3 Engine oil level

6.3.1 Check, refill

Caution

Danger of burns.

There is a danger of burns when working on a hot engine.

- Wear safety gloves.

Caution

Danger of injury.

Prolonged contact with engine oil can lead to irritation of the skin.

- Wear safety gloves.
- If there is contact with the skin, thoroughly wash the affected areas of the skin with soap and water.

Environment

Environmental hazard through operating materials!

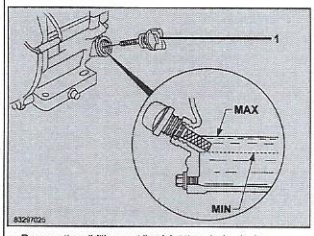
- Collect used oil and dispose of it in an environmentally sound way.
- Do not let oil seep into the ground or sewer.
- Replace defective seals immediately.

Notice

Danger of later engine damage.

- *Operating the engine with an oil level below the min. mark or above the max. mark can lead to engine damage.*
- *When checking the oil level, the engine must be horizontal and have been switched off for a few minutes.*

- Park the machine on an even, level surface.
- Switch off the motor and wait several minutes for the motor oil to collect in the crankcase. Engine must be level.



- Remove the oil filler cap/dipstick (1) and wipe it clean.
- Insert the oil filler cap/dipstick into the oil filler neck as shown, but do not screw it in, then remove it to check the oil level.
- If the oil level is near or below the lower limitmark on the dipstick, fill with the recommended oil to the upper limit mark (bottom edge of the oil fill hole). Do not overfill.
- Reinstall the oil filler cap/dipstick.

6.4 Air filter

Risk of fire and explosion caused by inflammable substances.

- For cleaning the filter element, do not use any flammable or aggressive materials.
- In the work area, do not smoke, and prevent open flames or sparks.

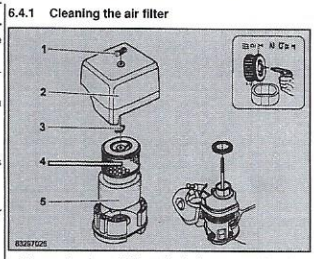
Risk of injury.

When working with compressed air, foreign bodies can go into the eyes.

- Wear safety spectacles
- Never point the jet of compressed air at a person or oneself.

- *Replace the filter element:*
  - *when the filter element is damaged*
  - *if there is wet or oily contamination*
  - *if engine performance suffers*
  - *at least once a year*
- *Do not allow dirt into the air channel and carburetor.*
- *Never run the engine without an air filter.*
- *The pressure must not exceed 2 bar | 29 psi | 200 kPa.*

6.4.1 Cleaning the air filter



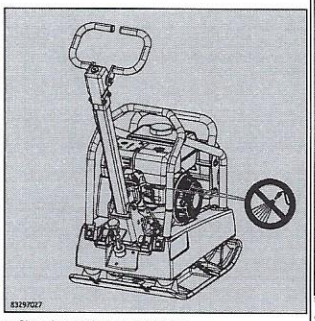
- Remove the wing nut (**1**) from the air cleaner cover (**2**), and remove the cover.
- Remove the wing nut from the air filter (**3**), and remove the filter.
- Remove the foamfilter (**5**) from the paper filter (**4**).
- Inspect both air filter elements, and replace themif they are damaged. Clean the air filter elements if they are to be reused:
- **Paper air filter element**
  - Blow compressed air *(not exceeding 2 bar | 29 psi | 200 kPa)* through the filter element from the inside.
- **Foam air filter element**
  - Clean in warm soapy water, rinse, and allow to dry thoroughly. Or clean in non-flammable solvent and allow to dry.
  - Dip the filter element in clean engine oil, then squeeze out all excess oil. The engine will smoke when started if toomuch oil is left in the foam.
- Wipe dirt from the inside of the air cleaner case and cover using a moist rag. Be careful to prevent dirt fromentering the air duct that leads to the carburetor.
- Place the foam air filter element over the paper element.
- Reinstall the assembled air filter. Be sure the gasket is in place beneath the air filter.
- Tighten the air filter wing nut securely.
- Install the air cleaner cover, and tighten the wing nut securely.

7.1 Cleaning

Risk of fire and explosion caused by inflammable substances.

- For cleaning, do not use any flammable or aggressive materials.

- *When cleaning the machine with a pressure washer, do not spray the electrical components directly.*
- *When cleaning the machine with a pressure washer, do not hold it directly over the air filter.*



- Clean the machine on a daily basis.
- After cleaning all cables, hoses, connections and connectors are to be checked for leakage, holed connections, chafing points and other damage.
- Detected faults are to be eliminated immediately.

7.2 Screw connections

- *Replace all self-locking nuts after each disassembly.*

7.2.1 Tightening torque

Ø	8.8		10.9		12.9	
	Nm	ft lb	Nm	ft lb	Nm	ft lb
M 4	3	2	4,4	3	5	4
M 5	6	4	8,7	6	10	7
M 6	10	7	15	11	18	13
M 8	25	18	36	26	43	31
M 10	49	36	72	53	84	61
M 12	85	62	125	92	145	106
M 14	135	99	200	147	235	173
M 16	210	154	310	228	365	269
M 18	300	221	430	317	500	368
M 20	425	313	610	449	710	523
M 22	580	427	830	612	970	715
M 24	730	538	1050	774	1220	899
M 27	1050	774	1480	1092	1774	1308
M 30	1420	1047	2010	1482	2400	1770

TAB01001.cdr

- Strength grades for screws with untreated, unlubricated surfaces.
- The values show 90% use of the yield strength; at a friction coefficient of $\mu_{tot} = 0.14$.
- Tightening torque is controlled with torque wrenches.
- The values given do not apply when MoS2 lubrication is used.

8.0.1 General information

- **Observe the safety information**
- **Only qualified and authorised persons may carry out repair work (mechanics specialising in construction and agricultural machinery).**
- **In case of faults, the operating and maintenance instructions must be referred to for correct operation and maintenance.**
- **If the cause of the fault cannot be located or remedied, an authorised Ammann Service Centre should be contacted.**
- **Always first check the most likely causes (fuses, LEDs, etc.).**

8.0.2 Fault table

Possible cause	Remedy	Remarks
Engine does not start		
Speed control lever in «*STOP*»-position	Set lever to «*START*»-position.	
No fuel		
– Tank run dry.	Add fuel.	
– Fuel filter blocked.	Renew fuel filter.	
– Fuel valve «*OFF*».	Move lever to «*ON*» position.	
Oil pressure lost.	Check engine oil level.	
Compression too low.	Contact a Ammann-service station.	
Engine switch «*OFF*».	Turn engine switch to «*ON*» position.	
Choke «*OPEN*».	Move lever to «*CLOSE*» position.	
Spark plug faulty, fouled or improperly gapped.	Gap or replace spark plug.	Unless the engine is warm.
Spark plug wet with fuel (flooded engine).	Dry and reinstall spark plug.	Start engine with throttle lever in «*MAX*» position.
Engine stops by itself during regular operation		
Fuel supply is interrupted		
– Tank run dry.	– Add fuel.	
– Fuel filter blocked.	– Renew fuel filter.	
Oil pressure lost.	Check engine oil level.	
Mechanical defects.	Contact a Ammann-service station.	
Reduced engine performance		
Fuel supply is obstructed		
– Tank run dry.	Add fuel.	
– Fuel filter blocked.	Renew fuel filter.	
– Tank venting is inadequate.	Ensure that tank is adequately vented.	
– Leaks at pipes unions.	Check threaded pipe unions.	
Air cleaner blocked.	Remove dirt from air cleaner.	
Incorrect valve clearance.	Adjust valve clearance.	
Too much oil in engine.	Correct the engine oil level.	
Too much oil in exciter.	Check exciter oil level.	
Default in hydraulic system.	Contact a Ammann-service station.	
Engine runs, machine does not move forward		
Insufficient V-belt tension.	Retention V-belt.	
V-belt broken.	Replace V-belt.	
Centrifugal clutch lining worn.	Replace linings and springs.	
Too much oil in exciter.	Check exciter oil level.	
Default in hydraulic system.	Contact a Ammann-service station.	

9. Storage

9.0.1 Preparation for storage

If the machine is to be shut down for an extended time (longer than 6 weeks), it should be placed stably on a pallet on a firm, even surface.

- The storage area should be dry and protected.
- The ambient temperature should be between 0°C / 32°F and 45°C / 113°F.
- Before storing the machine
  clean it thoroughly
  check for leaks and damage, and fix any problems.
  cover it with a protective tarpaulin.

9.0.2 Return to service

- Before using the machine again, check for
  leaks,
  defective or leaky hydraulic hoses, and
  any other damage.
- Repair any problems found.
- Check all screw joints and tighten them.