ISUZU

SERVICE STANDARDS

for

GASOLINE ENGINES

ELF · ELFIN · WASP · BELLEL

BELLETT & LIGHT BUSES



ISUZU MOTORS LIMITED

TOKYO, JAPAN

- Article 1. The standards contained herein define service standards for Isuzu gasolin engines (Models G 130, G 150, GL 150 and GL 201)
 - rticle 2. These service standards consist of items to be inspected, nominal dimensions values requiring service, standard values as assembled, limits for use and manners of service.
 - 1. The nominal dimensions are standard values as manufactured.
 - 2. The values requiring service are values above which service is required in performance.
 - The standard values as assembled are values to be stanards dafter the service and may be more or less different from the assembled dimensions of new vehicles.
 - The limits for use are limits above which the parts such as are worn should not be used and must be replaced.
 - 5. The manners of service are manners of general service.
- Article 3. Definitions of the terms in the table :
 - The "wear" is the difference (in the dimension of the worn part)
 between the dimension in the position which is not worn (or the
 nominal dimension in case there is no such position) and the dimension in the most worn position.
 - 2. The "partial wear" is the difference between the largest value and the smallest value of the wear.
- Article 4. When the service of the whole engine is requested, the parts needing any service should be first confirmed by the bench test or the like and the necessary minimum overhaul should be made. When the service of a part of the engine is requested, the corresponding items should be serviced in accordance with these service standards.

ENGINE

| Items to be Inspected | | | Nominal Dimensions | | Values Requiring Service |
|--|------------|------------------|--------------------------------------|---------|----------------------------------|
| | | i i i | and original to | Life in | Turba- |
| Time for making the engine overhaul service | е | | | | |
| | G 130 | | 11.0 kg/cm ² (156) PSI | | Less than7.7kg/cm (109.5) PSI |
| G 150 (Comp ratio 7.5 : | 1) | | 11.0 | | Less than 7.7 |
| Compression pressure of G 150 (Comp ratio 8.5: | 1) | | 12.0 (170.7) | | Less than 8.4 (119.5) |
| the cylinder (kg/cm²) | GL 150 | | 10.2 (145) | | Less than 7.2 (102) |
| GL 201KA (Comp ratio 8 | 3.0 : 1) | | 13.2 (188) | | Less than 9.3 (132) |
| GL 201KB (Camp ratio 8 | 3.5 : 1) | | 14.0 (199) | | Less than 9.8 (139) |
| Fuel consumption rate (km/l) | sercial en | | 100% | | Less than 60% |
| Engine oil consumption rate (km/l) | ned he ye | | 100% | | Less than 50% |
| Engine body (Cylinder block) | | | 371 | | |
| Wear of the inside | G 130 | | 75ϕ mm (2.9550) in | 1 | |
| diameter of the cylinder measurement position | G 150 | | 79 ϕ (3.1126) | | More than 0.2 |
| B: 7.5 mm (G130, G150) A B: 10mm (GL150, GL201) | GL 150 | | 78ϕ (3.0732) | | (0.0079) |
| B: 10mm (GE130, GE201) AN NE | GL 201 | | 83 ϕ (3.2702) | | |
| The state of the state of the state of | G 130 | clensur Attom | 75 ϕ (2.9550) | 381 · | |
| Reboring | G 150 | | 79 ϕ (3.1126) | | |
| restring | GL 150 | | 78ϕ (3.0732) | | |
| | GL 201 | | 83 ϕ (3.2702) | | |
| Inside diameter difference in each part of the cylinder after honing | | | | | |
| | G 130 | | 75 ϕ (2.9550) | | |
| Maximum measure in the inside diameter of the | G 150 | | 79 φ (3.1126) | | |
| cylinder | GL 150 | | 78 ϕ (3.0732) | | |
| | GL 201 | | 83 ϕ (3.2702) | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|---|---|--|--|
| 78.750~ 76.725 2.703 ~ 3.102) | In For G 130 | | |
| 34 13 - 2.7013) 42.750 - 87. 5112 - 31. | | Overhaul and service the engine. ····· | Measure it at the water temperature of 75°C and Engine spees is about 300 r.p.m under the fully-oper throttle valve. |
| | 6 2 6 9 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Ditto | Actual figure at time of new car shall be regarde as 100 %. |
| 100.0) (0.000 100.0) | kover) | While they is may arrest lenkings, | When it is not rebored remove the step of upper part. |
| 0.25 mm (0 | 0.0099) in | When it has been rebored, hone | shaliy2) ybod enignā |
| 0.50 (0 | 0.0197) | it. 2. Keep the inside diameters of the | 0 |
| 0.75 (0 | 0.0296) | respective cylinders to be of the same nominal dimension. | |
| 1.00 (0 | 0.0394) | 3. Keep the inside diameter differ- | |
| 1.25 (0 | 0.0493) | ence among the respective cylin- ders to be less than 0.03 mm after | |
| 1.50 (0 | 0.0591) | honing. (0.0012 in) | |
| Less than 0.02 | (0.0008) in | the valve apping. | ongle and \$1 |
| -0.20- | 76.7 ϕ mm (3.0220) in | er tolni adt 501 | |
| | 80.7 ϕ (3.1796) | Insert the liner. | Force fit 0.06~0.08 |
| | 79.7 ϕ (3.1402) | evlav | (0.0024~0.0032) |
| | 84.7 ϕ (3.3372) | | |

| Items to be | e Inspected | processor M | | 97 | Nominal Dimension | | Values Requiring Service |
|--|-------------------------------|-------------|----------------|-------|--|---------------------|--------------------------------|
| utside diameter of the li | iner | | | | | | |
| program with particle state of the control of the c | | | | | | | Marie S |
| | | G | 130 | | 75ϕ m (2.9550) | in | |
| aximum measure in the o | diameter of the base | G | 150 | | $79~\phi$ (3.1126) | | |
| le of the cylinder | | GL | 150 | | 78 ϕ (3.0732) | | |
| | | GL | 201 | | $83~\phi \\ (3.2702)$ | | |
| eformation of the upper | surface of the cylinde | r | | | | Mo | ore than 0.2 mm (0.0079) in |
| | | | | | | | |
| | | | | | | | 28.0 |
| | r head) | Tal. | and the second | | | | 58.0 |
| Hydraulic pressure test for ingine body (Cylinder ingine body) | | for the | | | | 1 mm (0.0394) in | 2.0 mm (0.0788) ii |
| ngine body (Cylinde | r head) In case insert is not | | | | | (0.0394) in | 2.0 mm (0.0788) ir |
| ngine body (Cylinde | r head) In case insert is not | exhaus | st valve | valve | ADDER OF THE PARTY | (0.0394) in | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|--|--|--|---------------------------------|
| $78.750 \sim 78.725$ (3.103 ~ 3.102) in $79.000 \sim 78.975$ (3.113 ~ 2.7033) | for G 130 | When it is rebored using the inserted liner, the oversize should be | |
| $82.750 \sim 82.975$ $(3.112 \sim 3.270)$ $83.000 \sim 82.725$ $(3.27 \sim 3.26)$ | for G 150 | under 1 mm. (0.0394 in) | |
| | 78.8 ϕ mm (3.1047) in | | |
| fine made and all | 82.8 ϕ (3.2623) 79.7 ϕ (3.1402) 84.7 ϕ (3.3372) | Replace the cylinder block. | |
| Less than 0.05 mm (0.0020) in | | Correct it by grinder | Maximum correction 0.4 (0.1576) |
| 5 kg/cm² (71) PSI | 40.4 | When there is any water leakage, correct or replace the rubber packing. | driw |
| | | 0 130 | |
| | | | 0 |
| | | | |
| | | | |
| | 8 di Pador I 2 8 53 (0.049) | Insert the washer of a thickness equivalent to the sinking beneath the valve spring. | ····· Valve seat angle: 45° |
| | | when weaper leads, correct a [ms/ps] and place the cylinder house. | Hydroolic presse |
| | | G 130 G 130 G 130 GL 130 | |

| Items to be Inspected | | | Nominal Dimensions | gaule led | Values Requiring Service |
|---------------------------------------|-----------------------------|------------------------------------|-------------------------|------------------|--------------------------------|
| In car insert provi | is not | for the inlet and exhaust valve | (0. | 1 mm 0394) in | 2.5 mm (0.0985) ir |
| Sinking of valve seat | | for the inlet valv | e | 1 | 2.5 |
| In car | se is provided | for the exhaust | (0. | 1.5 0591) | 3.0 (0.1182) |
| | ne inlet and Just valves | G 130 G 150 GL 150 GL 201 | 1.4 (0.0552) | M | Nore than 2.0 (0.0788) |
| with | ne inlet valve | G 130 G 150 GL 150 GL 201 | | М | ore than 2.0 |
| for the valve | ne exhaust | G 130 G 150 GL 150 GL 201 | | м | ore than 3.0 (0.1182) |
| Deformation of the fitting surface | | The least one | | | lore than 0.2 |
| Deformation of the fitting surface fo | or the manifold | | | M | ore than 0.4 (0.0158) |
| emale screw of the spark plug | D TO ANNEO | 14ϕ (0.55 | Pitch: 1.25 (0.0493) | | |
| Hydraulic pressure test for 3 minute | s (kg/cm²) | | | | |
| Fastening torque of the cylinder hea | ad bolts (m-kg) | G 130 G 150 GL 150 GL 201 | | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|------------------------------|----------------|----------------------------------|--------------------------------|
| | , |) | |
| | | | |
| | | | (notel9) stong galveen nie |
| | | ni notaig ani | |
| | | Change the insert | ····· Valve seat angle : 45° |
| | | G 130 | |
| | | | |
| | | G 150 | |
| 1.02 (0.0394) | | , | versize of the pinton |
| | | GL 130 | |
| 1.2~1.5 mm | | | |
| (0.04728~0.0591) in | | | |
| | | | |
| | | | |
| 1.2~1.5 | | C | |
| | | Correct if by valve seaf cuffer. | . ····· Valve seat angle: 45° |
| | | Oct D | |
| | | Replace the pin. | |
| 2.0~2.2 | | GT 130 | |
| (0.0788~0.0867) | | - 102 10 | 0 |
| | | | |
| Less than 0.05 | | 6 130 | |
| (0.0020) | | Correct it by grinder. | ····· Maximum correction : 0.5 |
| Less than 0.05 | | Correct it. | |
| 0.004 | | GL 201 | |
| | | | |
| $5 \mathrm{kg/cm^2}$ | | When water leaks, correct or | r re- |
| (71) PSI | | place the cylinder head. | ole redylag permi |
| 6∼ 7 m-kg (43∼51) ft-lb | 1 L mm | gain as | |
| 6~ 7 | a month in | | |
| 6∼ 7 | | Fasten at same torque. | |
| 11~12 (79.57~ | 071 | | |

| Items to be Inspected | to-repM | | Nominal Dimension | Values Requiring Service |
|---|-------------|-----|-------------------------|--------------------------|
| Main moving parts (Piston) | | | | Barrer Barrer |
| Clearance between the cylinder and the piston in the skirt part | | 682 | | |
| | G 130 | | 75ϕ mm (2.9550) in | |
| Oversize of the piston | G 150 | | 79 ϕ (3.1126) | |
| | GL 150 | | 78 ϕ (3.0732) | |
| | GL 201 | | 83 ϕ (3.2702) | - (1850.0 - 8ETHS, 01 |
| Main moving parts (Piston pin) | | | | |
| | G 130 | | 22ϕ mm (0.8668) in | |
| Wear of the pin | G 150 | | 22 ϕ | |
| | GL 150 | | 22 ϕ | |
| -atom | GL 201 | | 25 φ (0.9850) | T-0.0.0 - 6.5.0.7 |
| | G 130 | | | |
| Dimensional allowance | G 150 | | | |
| between the piston pin and the piston | GL 150 | | | |
| Benedic screen for the school course. | GL 201 | | | |
| Main moving parts (Piston ring) | el valor ha | | | 5 5 tg/2cm ² |
| Clearance between 1st compression ring |) | | | 7 m-kg |
| the opposed ends of the piston ring 2nd compression ring | G 130 | | | |
| (in the gauge) Oil scraper ring | | | | |

| Standard Values as Assembled | Limits for Use | Manners of Ser | vice Remarks |
|----------------------------------|--|--|--|
| 0.0716 -0.01671s | 1.7 mm 10.005 F G | gni | Lat Compression |
| 0.004 mm (0.0002) in | | 03.0 | Perform measurement at normal temperature. |
| 0.125 (0.0050) ir | (for G130, G1 | 50) | Clesia Solvenia Isl compression |
| 0.25 (0.0099) ir | 1 | | |
| 0.50 (0.0197) ir | 1 | | |
| 0.75 (0.0296) ir | 1 | | |
| 1.00 (0.0394) ir | | | |
| 1.25 (0.0493) in | | | |
| 1.50 (0.05910) | in | | |
| | | | |
| | | | |
| | | | |
| 12 12 12 12 12 13 | 21.97 ϕ mm (0.8656) in 21.97 ϕ | Replace the pin. | Claurania between Oll scraper ring |
| | 24.97 ϕ (0.9832) | 081 JO | estimated the feed of the self- |
| 10.3765 (1.8-3) | (0.7032) |) manufacture of the state of t | amore 3rd, 4th dampress |
| 0.004 mm (0.000158) in | | noitteam | |
| | | When engine knockings | |
| 0.004 | | | should be Iy forced in when piston is |
| 0.007 | | corrected or replaced. | warmed to 70~100°C. |
| (0.0003) | | Corrected or replaced. | warmed to 70° s too C. |
| 0.004 | | | |
| | | OEL D | |
| | | | |
| | | | |
| | | | and the second second |
| 0.2~0.4 mm (0.0079~0.0158) | 1.5 mm in (0.0591) in | | |
| 0.2~0.4 | 1.5 | | |
| | 1.0 | | |
| 0.2~0.4 | (0.0394) | | |

| Items t | o be Inspected | More | Nominal Dimensions | Values ···· Requiring Service |
|---|----------------------------|----------------|-----------------------|-------------------------------------|
| 7 | 1st Compression ring | | | |
| | 2nd compression ring | G 150 | | |
| | Oil scraper ring | | | |
| Clearance between | 1st compression ring | G Ing - Ing | | |
| the opposed ends of the piston ring (in | 2nd compression ring | GL 150 | | |
| the gauge) | 3rd, 4th oil scraper rings | 6 196 | (2.11)(1.1 ald | |
| | 1st compression ring | | | |
| | 2nd, 3rd compression rings | GL 201 | | |
| | 4th oil scraper ring | | | |
| | 1st, 2nd compression rings | G 130 | | |
| | Oil scraper ring | { | | |
| | 1st, 2nd compression rings | 6 PV 17 | | |
| Clearance between | Oil scraper ring | G 150 | | |
| the opposed ends of the piston ring (free) | 1st, 2nd compression rings | { | | |
| ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 3rd, 4th compression rings | GL 150 | | |
| | 1st, 2nd, 3rd compression | 6 100 | | |
| | rings | GL 201 | | |
| i nortig agriss of hauto' | 4th oil scraper ring | Callada Madani | | 1000 |
| | | G 130 | | |
| | Compression ring | G 150 | | |
| | Compression ring | GL 150 | | |
| Tension (kg) | Platau ring) | GL 201 | | |
| , | | G 130 | | |
| Top Tools best Females | Oil ring | G 150 | | |
| | On ring | GL 150 | | |
| | | GL 201 | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | ad at em- | Remarks |
|--|-------------------------|--|-------------|----------------------------|
| 0.3~0.5 mm (0.0118~0.0197)i | 1.5 mm n (0.0591) in | OSI JO edit bao dibiw evacon s | patr sea no | essend amount |
| 0.2~0.4 (0.0079~0.0158) | 1.5 | 108 10 | | emis noneptieme |
| 0.2~0.4 | 1.0 (0.0394) | 18 F - 50 | Gauge in | side diameter: |
| 0.2~0.4 | 1.5 | graces width and the Gt 150 | G 130 | 75.00ϕ mm (2.9527) in |
| | 1.3 | Replace it. In case the engine is | G 150 | 79.00 ϕ (3.1102) |
| $0.1 \sim 0.3$ (0.0039 \sim 0.0118) | 1.5 | overhauled, replace the ring. | 61 150 | 78.00ϕ |
| 0.1~0.3 | 1.0 | o 081 G | GL 150 | (3.0709) |
| 00.04 | W (25,63) | | GL 201 | 83.00 ϕ (3.2677) |
| 0.2~0.4 | 1.5 | 031 3 | | |
| 0.1~0.3 | 1.5 | - OAT JG | | |
| 0.1~0.3 | 1.0 | 106.10 | | |
| 9 mm (0.3543) in 9 | | Alternation of the post days for the photos | gaps out to | s naith og gnitte |
| 12 (0.4724) | | | | |
| 12 | | | | |
| 10 (0.3940) | | | Referenc | e Value. |
| 9.5~12.5 (0.3740~0.4921) | | (box paltoon | n=3 0 0 | |
| 9.0~12.0 | | G 130 | | |
| (0.3543~0.4724) | | OFF O notely ben seed beetle | | |
| 9.5∼12.5 8.0∼11.0 | | Replace the pin or build | | |
| (0.3150~0.4331) | and on | 100 15 | | |
| 0.70~1.10 kg (1.54~2.42) lb 0.84~1.26 1.85~2.78) 0.8 ~1.2 | 0.5 kg (1.10) lb | G 130 | | |
| $0.8 \sim 1.2$ $(1.76 \sim 2.65)$ $1.0 \sim 1.4$ $(2.20 \sim 3.09)$ | (1.10) 16 | OE 130 | | |
| 0.88~1.32 |) | Replace it | | |
| $(1.94\sim2.91)$ $0.84\sim1.26$ $(1.85\sim2.78)$ $1.0\sim1.45$ | 0.6 (1.32) | to core the connection of are imported for the ac- | | |
| $(2.20 \sim 3.20)$ $1.2 \sim 1.65$ $(2.65 \sim 3.64)$ | | | | |

| Items to be Inspected | | Nominal Dimensions | Values Requiring Service |
|---|--|-----------------------|--------------------------------|
| Market Control of the Control | G 130 | mer & F | min 20 - 20 |
| Clearance between the ring groove width and the | GL 150 | | |
| compression ring | GL 201 | | |
| | G 150 | | 89193- 57(V)) |
| | G 130 | | |
| Clearance between the ring groove width and the | GL 150 | | |
| oil scraper ring | GL 201 | | |
| To de la constant de | G 150 | | |
| (1000-2) Oct and design of surregion research | G 130 | 75·∳ mm (2.953) in | E.C. Lis |
| Ourseles of the sine | G 150 | 79 ϕ (3.110) | |
| Oversize of the ring | GL 150 | 78 φ (3.071) | |
| | GL 201 | 83 ϕ (3.268) | |
| | | | |
| Setting position of the opposed ends of each ring | 9 10 | | \$1 01 |
| 127, Zerl sommeressen einen einen som in der State von der einen einen som in der State von der einen som in der einen som | 9 12 | | |
| in. Zed compression elade | G 130 | | |
| in. Zed compression elade | G 130 G 150 | | 10472.01 |
| Main moving part (Connecting rod) | G 150 | | |
| Main moving part (Connecting rod) Clearance between the small end bush and piston | G 150 GL 150 | | More than 0.05 mm |
| Main moving part (Connecting rod) Clearance between the small end bush and piston | G 150 | | More than 0.05 mm |
| Main moving part (Connecting rod) Clearance between the small end bush and piston pin | G 150 GL 150 | | More than 0.05 mm |
| Main moving part (Connecting rod) Clearance between the small end bush and piston pin Play in the forward and rearward direction | G 150 GL 150 GL 201 | | More than 0.05 mm |
| Main moving part (Connecting rod) Clearance between the small end bush and piston pin Play in the forward and rearward direction between the small end and piston boss (on one | G 150 GL 150 GL 201 G 130 | | More than 0.05 mm |
| Main moving part (Connecting rod) Clearance between the small end bush and piston pin Play in the forward and rearward direction | G 150 GL 150 GL 201 G 130 G 150 | | More than 0.05 mm |
| Main moving part (Connecting rod) Clearance between the small end bush and piston pin Play in the forward and rearward direction between the small end and piston boss (on one | G 150 GL 150 GL 201 G 130 G 150 GL 150 | | More than 0.05 mm |
| Main moving part (Connecting rod) Clearance between the small end bush and piston pin Play in the forward and rearward direction between the small end and piston boss (on one side) | G 150 GL 150 GL 201 G 130 G 150 GL 150 | | More than 0.05 mm |
| Main moving part (Connecting rod) Clearance between the small end bush and piston pin Play in the forward and rearward direction between the small end and piston boss (on one | G 150 GL 150 GL 201 G 130 G 150 GL 150 | | More than 0.05 mm |

| Standard Values as Assembled Limits for Us | se Manners of Service Remarks |
|---|--|
| 0.05 mm (0.0020) in 0.3 mm | G 130 |
| 0.06 (for G 150) (0.0118) i (0.0024) | Fit with marked surface |
| 0.04 | Replace the ring or the piston above. |
| (0.0016) 0.15 | |
| 0.07 (for G 150) (0.0059) (0.0028) | Control of the Commenting and BNRyWill with the transfer |
| 0.125 (0.0049) | Bloaner |
| 0.25 (0.0090) | |
| 0.50 (0.0197) | |
| 0.75 (0.0296) | |
| 1.00 (0.0394) | |
| 1.25 (0.0492) | |
| 1.50 (0.0591) | |
| 185 (8.102q) | Alternately at 120° (for GL 201) |
| Coss them Oct | 0 |
| Less than 0.016 mm (0.0006) in | Conserve of the first conserved from 001 and box as |
| | As the rod is lightly re- |
| Less than 0.016 | |
| 89,000325 | Replace the pin or bush volved with the big end |
| Less than 0.011 (0.0004) | Replace the pin or bush volved with the big end held. |
| Less than 0.011 (0.0004) Less than 0.013 (0.0005) | held. |
| Less than 0.011 (0.0004) Less than 0.013 (0.0005) 1.7 mm (0.0670) in | held. |
| Less than 0.011 (0.0004) Less than 0.013 (0.0005) 1.7 mm (0.0670) in 1.7 | held. |
| Less than 0.011 (0.0004) Less than 0.013 (0.0005) 1.7 mm (0.0670) in | held. |
| Less than 0.011 (0.0004) Less than 0.013 (0.0005) 1.7 mm (0.0670) in 1.7 | held. Referance values. |
| Less than 0.011 (0.0004) Less than 0.013 (0.0005) 1.7 mm (0.0670) in 1.7 1.4 (0.0551) | Reference values. |
| Less than 0.011 (0.0004) Less than 0.013 (0.0005) 1.7 mm (0.0670) in 1.7 1.4 (0.0551) 1.0 (0.0394) | Referance values. |
| Less than 0.011 (0.0004) Less than 0.013 (0.0005) 1.7 mm (0.0670) in 1.7 1.4 (0.0551) 1.0 (0.0394) | In case the connecting rod bearings are inserted into the connectings rod and cap, use the bearings project- |
| Less than 0.011 (0.0004) Less than 0.013 (0.0005) 1.7 mm (0.0670) in 1.7 1.4 (0.0551) 1.0 (0.0394) | In case the connecting rod bearings are inserted into the connectings rod and cap, use the bearings project- |

| Items to be Inspected | | Nominal Dimensions | Values Requiring Service | |
|--|----------|---|--------------------------|--|
| | G 130 | | mm 88.0 | |
| And the state of t | G 150 | | More than 0.12 mn | |
| Clearance between the connecting rod bearing and crankpin | GL 150 | | (0.0047) in | |
| and crainpin | GL 201 | | 10.0 | |
| Clean and an angular statily out the | | 0.15 | (8400.0) | |
| Contact of the connecting rod bearing with the crankpin | × 15 | | (0.0026) | |
| · · | G 130 | 1712 | (0930.0) 61 7 | |
| District of | G 150 | | More than 0.35 | |
| Play in the forward and rearward direction of the big end | GL 150 | | (0.0138) | |
| | GL 201 | | (09) (0,037) | |
| Connecting rod length, center to center of bearings | GL 150 · | 128 146 (5.7480) 155 (6.1024) | | |
| Main stee - 1 are stressouring sud- | G 130 | | | |
| Twist of the rod (per 100 mm) | G 150 | | More than 0.2 | |
| (Per 3.9400 in) | GL 150 | | (0.0079) | |
| | GL 201 | | 192 | |
| | G 130 | | | |
| Parallelism of the piston-pin to the crankpin | G 150 | | More than 0.15 | |
| (Per 100 mm) (Per 3.9400 in) | GL 150 | | (0.0059) | |
| ard - | GL 201 | 0.213 | J | |
| s in particular from minimum | G 130 | | | |
| Weight difference after the assembly of the | G 150 | | | |
| piston (g) | GL 150 | | | |
| | GL 201 | | | |
| | | | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|---|---------------------------------------|--|-------------------------------|
| 0.05 mm (0.0020) in | | G 130 | |
| 0.05 | | Fourth to their theother become learning | |
| 0.04 (0.0016) | | Replace the bearing. | |
| 0.06 (0.0024) | | GL 201 | |
| 11 42 (M) m | | Correct the bearing in case the con- | |
| | | tact is bad. | |
| 0.27 (0.0106) | | parod borne | Undersize of the connecting |
| 0.27 0.20~0.32 (0.0079~0.0126) | | Replace the connecting rod. | |
| 0.20~0.25 (0.0079~0.0098) | | | |
| | · · · · · · · · · · · · · · · · · · · | (vluelata) | Main maying part (Gran |
| | | Correct it by count or highwo tomas | |
| | | 000 00 | Reference value. |
| | | air Journal and pin G 150 . | |
| | | Gu 150 | |
| Less than 0.1 (0.0039) | | (05, 35) | 0 |
| Less than 0.1 | | Correct it or replace the connecting | |
| Less than 0.08 (0.0032) | | | |
| Less than 0.08 | | estura - Table Market | |
| Less than 0.1 | ` | 001 0 100 | |
| Less than 0.1 | | 081 0 | |
| Less than 0.05 (0.0020) | | Ditto. | |
| Less than 0.05 | | GL 201 | |
| Less than 14 g | Committee (2004) | G 130 | |
| (0.494) oz Less than 14 | | G 130 | Take care of the grade in |
| Less than 14 Less than 20 (0.705) | | Replace the crankshall 021 IO | weight of the connecting rod. |
| Less than 20 | 45.00 8 | 100 301 | |

| Items to be Inspected | | Nominal . Dimensions | Values Requiring Service |
|---|-----------------|-------------------------|----------------------------------|
| | G 130 | | 0.05 mm |
| Tightening torque of the connecting rod bolt | G 150 | | |
| m-kg) | GL 150 | | |
| | GL 201 | | |
| consideration and bear and consumer and large | | | |
| | | | |
| Undersize of the connecting rod bearing | | • | |
| | | | |
| | | | |
| | GL 901 | | 0.204-0.25 |
| Main moving part (Crankshaft) | | 120 mm | |
| Partial wear of the main journal and pin | | | More than 0.05 mm (0.0020) in |
| epitor purerolax | G 130 | | |
| Finishing precision of the main journal and pin | G 150 | | |
| taper and ovality) | GL 150 | | |
| | GL 201 | | LO modificand |
| of the east type 100 med militarings edt sonly | Correctit other | | |
| Projection of the main bearing metal | | | |
| | | | |
| | G 130 | | . I made and |
| Main bearing clearance with the journal | G 150 | | More than 0.12 |
| wain bearing clearance with the Journal | GL 150 | | (0.0047) |
| | GL 201 | | Lengthon 0.05 |
| | G 130 | 56 ϕ (2.2047) | est then I g |
| | G 150 | 56 φ | |
| Wear of the main journal | GL 150 | $57.5 \ \phi$ (2.2638) | |
| | GL 201 | 65.0 ϕ (2.5590) | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|---|--------------------------------|-------------------------------------|------------------|
| 2.9~3.4 m-kg (21~24.6) ft-lb | min Al Sharm no (Allegaria) | 061 20 | |
| 2.9~3.4 | 17.56 | Fasten the bolt through painting it | |
| 2.4~2.9 (17.6~21) | 100 | with oil. | was edi lig voeW |
| 6.5~7.0 (47~51) | A U.C. | GE 201 | |
| 0.125 mm (0.0049) in 0.25 (0.0098) | | | |
| 0.50 (0.0020) | | | |
| 0.75 (0.0197) 1.00 (0.0394) | | | |
| 1.25 (0.0492) | | | |
| 0.13 | | 0¢f 53 | |
| Mare 18an 0.3 m | | Correct it by crank grinder. | - Indohes |
| Less than 0.01 mm (0.0004) in | | GL 201 | |
| Less than 0.01 | | | |

| | | Correct it by crank grinder. | | |
|----------------------------------|--------------|---------------------------------------|-------------|---|
| Less than 0.01 mm (0.0004) in | | 100 10 | | |
| Less than 0.01 | | | | |
| Less than 0.01 | | | | |
| Less than 0.02 | | | | |
| (8000.0) | | | 0 | |
| | | Use the main bearing metal having | 1000 pais c | M |
| | | the proper crush and projecting. | | |
| | | See that the back surface is in close | | |
| | | contact. | | |
| 0.05 | | cally belesies. | | |
| (0.0020) | | tlod gained leaves | | |
| 0.05 | | | | |
| 0.06 | | Replace the main journal bearing. | | |
| (0.0024) | | | | |
| 0.06 | |) | | |
| | 54.75 φ mm | | | |
| | (2.1555) in | CE 130 | | |
| | 54.75 ϕ | Danlars the supplied of | | |
| | 56.50 ϕ | Replace the crankshaft. | | |
| | (2.2244) | GL 150 | | |
| | 63.68 ϕ | | | |
| | (2.5071) | - 102 103 | | |

| Items to be Inspected | sent/A | | Nominal Dimensions | Values Requiring Service |
|--|-----------------|------|---------------------------------|----------------------------------|
| | G 130 | | 49 ϕ mm (1.9291) in | 2.9~2.4 miles (21~24.4) tr.15 |
| | G 150 | | 49 <i>φ</i> | |
| Wear of the pin | GL 150 | | 48.0 ϕ (1.8898) | |
| | GL 201 | | 53.0 φ (2.0866) | (12-54) |
| | G 130 | | | |
| | G 150 | | | |
| Undersize of the journal bearing | | | | |
| | GL 150 | | | |
| | GL 201 | | | |
| | G 130 | | |) |
| Play in the forward and rearward direction of the | G 150 | | | More than 0.3 mm |
| crankshaft | GL 150 | | | (0.0118) in |
| | GL 201 | | | Lots then 0.01 mm |
| Deflection of the crankshaft | G 130 | | | More than 0.1 (0.0039) |
| | a, le | | | TAO mp/ft sead |
| Starting ring gear | | | | |
| | | | | |
| and an incident of the control of th | d and man | | | |
| Balancing (g-cm) | | | | |
| Torque loading of the crank journal bearing bolt | 5 110 | | | (00 a) 0) 125 50.0 (13 k) 4 - |
| (m-kg) | in with applica | u II | | 1966- |
| | | | | |
| Valve system (Camshaft) | | | | |
| | G 130 | | 45ϕ mm (1.7716) in | |
| | | | | |
| Partial wear of the journal | G 150 | | 45 ϕ | |
| Partial wear of the journal | G 150 GL 150 | | 45 ϕ 44.39 ϕ (1.7476) | More than 0.05 mm (0.0020) in |

| Limits for Use | Manners of Service | Remarks |
|-----------------------------|--|--|
| 47.75 ϕ mm (1.8799) in | G 130 | |
| 47.75 ϕ | Replace he Bearing. | |
| 47.00 ϕ (1.8504) | Replace the Crankshaff. | teol arit situs escentralis galgori |
| 51.68 ϕ (2.0347) | 108 90 | |
| a lywyth | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| EXSE D | - 0 (30 | |
| | 1 mm | |
| | Replace the thrust bearing. | |
| | Correct the deflection | ···· Do not heat. |
| | In case edges of the cog are warp- | dwad to see to see himse |
| | ed, plane them off, and in case | 0 |
| | there is any remarkable damage, | |
| | change the gear position or replace it. | |
| | See that it is statically and dynamically balanced. | |
| 34) | | |
| | | nateva evint |
| 7.88, 5, 100 | The second secon | |
| at (02) E(0) | Strate the valve | |
| 16-00E11 | Correct it. | |
| | | |
| | Replan limb | |
| | 47.75 φ mm (1.8799) in 47.75 φ 47.00 φ (1.8504) 51.68 φ (2.0347) | A7.75 φ mm (1.8799) in A7.75 φ 47.00 φ (1.8504) 51.68 φ (2.0347) Replace the thrust bearing. Correct the deflection. In case edges of the cog are warped, plane them off, and in case there is any remarkable damage, change the gear position or replace it. See that it is statically and dynamically balanced. |

| Items to be Inspected | | | Nominal Dimensions | Values Requiring Service |
|---|-------------------|------|--------------------------|---------------------------|
| | G 130 | | 477.5 Event | |
| | G 150 | | | More than 0.15 mr |
| Bearing clearance with the journal | GL 150 | | | (0.0059) i |
| | GL 201 | | 21 20015 | |
| | G 130 | | 45 ϕ mm (1.7717) in | 0.125 nom |
| | G 150 | | 45 ϕ | |
| Wear of the journal | GL 150 | | 44.39 ϕ (1.7476) | |
| | GL 201 | | 45 ϕ | |
| Indersize of bearing | CL 101 | | | (0.039× 1.24 |
| | G 130 | | $35.49 \ \phi$ (1.3972) | 81.0 |
| Height of the cam | G 150 | | 36.06 ϕ (1.4197) | |
| | GL 150 | | 35.49 ϕ | |
| | GL 201 | | 35.49 ϕ | |
| Driving gear of the oil pump | LIAN ARTHU | | | receipt war |
| te conjunt barry. | L la leighte site | o al | | |
| Deflection of the camshaft | | | | More than 0.1 (0.0039) |
| Play in the forward and rearward direction of t | the | 11 | | More than 0.2 (0.0079) |

| Wear of the inlet valve stem | $8.0~\phi$ mm (0.3150) in | |
|--|---------------------------|---------------------------------|
| Wear of the exhaust valve stem | 8.0 ϕ | mint 19. th and the 7 |
| Clearance between the inlet valve stem and the valve guide | 1174/81 | More than 0.2 mm (0.0079) in |

| Standard Values as Assembled | Limits for Use | Manners of Service Remarks |
|---------------------------------|-----------------------------|--|
| 0.06 mm (0.0024) in 0.06 | | Replace the Bearing. |
| 0.05 (0.0020) 0.05 | mil te mai | Replace the bearing. |
| | 44.60 ϕ mm (1.7559) in | - 621 420 aviov mist |
| | 44.60 ϕ (1.7559) | Replace the camshaft. |
| | 44.00 ϕ (1.7323) | 105 15 calles (ata) |
| | 44.60 ϕ (1.7559) | 102 3D regler tweeks |
| 0.25 (0.0098) | | |
| 35.00 (1.3780) | | gnites evilve testing |
| 35.56 (1.4000) | | Correct the slightly stepp Replace the camshaft ed and worn part of th |
| 35.00 | | cam. |
| 35.00 | 05545 | Other length of a 40 ma, GL 130-103 |
| | | In case there is any remarkable damage, replace the camshaft. |
| Less than 0.05 (0.0020) | mitter - | © (20) |
| 0.08 (0.0032) | 0.05 | Replace the thrust plate. |
| | | |

Digitized by Aotearoa Archives Trust http://nzarchives.com

| | 7.88 ϕ mm (0.3102) in | OCI & (whole) |
|------------------------|----------------------------|---------------------------------------|
| | 7.85 ϕ (0.3091) | Replace the valve. |
| 0.05 mm (0.0020) in | | Replace the valve or the valve guide. |

| Items to be Inspected | | | | Nominal Dimensions | Values Requiring Service |
|--|---|----------------|----|----------------------------|--|
| Clearance between the | exhaust valve stem and | 5 756 | | | More than 0.25 mm (0.0098) in |
| Valve thickness | Inlet and exhaust valves | G 130 G 150 | | $1.3~\phi~$ mm (0.0512) in | 50(8) Troops 16 (5)(55, 5) (50, 5) |
| THICKNESS | Inlet valve | GL 150 | | 1.3 ϕ | |
| | Exhaust valve | GL 150 | | 1.3 ϕ | |
| 4, | Inlet valve | GL 201 | | (0.0591) | |
| | Exhaust valve | GL 201 | | 1.3 ϕ | |
| likus aras s | | | - | | (810)0.6) |
| Outer valve spring | | 10000 | | ne. | 31.52 |
| anali ylidgile edi takvio. | 40 mm (1.5760) in, G 130 | 1.10 | | 26.00 kg (57.3) lb | 56,80 (6665, 0 |
| Control of the second | 40 mm, G 150 | | | 26.00 | |
| Spring force in kg, as compressed to the | 38 mm (1.4972) in, GL 150-101 ('61 & previous year models) | | | 15.65 (34.5) | |
| fitted length of : | 40 mm, GL 150-103 ('62 & subsequent year mo | dels) | | 26.00 | |
| | 40 mm, GL 201 | | | 28.00 (61.7) | |
| Sillegian of somewhole | G 130 | | | 53.0 mm (2.0866) in | COO NOOR ENGL |
| | G 150 Low compression | | | 53.0 | |
| | G 150 | | | 54.3 | |
| Free height | High compression | | | (2.1378) | |
| | GL 150-101 ('61 & previous year mode | ls) | | 42.47 (1.6720) | |
| | GL 150-103 ('62 & subsequent year mo | | | 53.0 | |
| | GL 201 | | | 59.7 (2.3504) | |
| | (Out of perpendicular) | G 130 | 10 | m 3,88.5 | |
| | | | | | |
| Tolerance of being right | | G 150 | | | |
| angle | 55 | GL 150 | | | |
| | | GL 201 | | | |

| (0.0012) in g 1.0 ϕ mm (0.0394) in 1.0 ϕ | eplace the valve or the valve uide. | pring force in Eq. 45 compressed to the |
|--|---|---|
| (0.0394) in 1.0 φ 1.0 φ 1.2 φ (0.0472) 1.0 φ | eplace the valve. | |
| 1.0 ϕ 1.0 ϕ 1.2 ϕ (0.0472) 1.0 ϕ | eplace the valve. | |
| 1.0 φ 1.2 φ (0.0472) 1.0 φ | eplace the valve. | |
| $1.2 \ \phi$ (0.0472) $1.0 \ \phi$ | (61 & previous year models) 38 mm, GL 180-103 (62 & subsequent year models) 38 mm, GL 201 G 130 G 150 Low compression | |
| (0.0472) 1.0 φ | (62.3 subsequent year models) 38 mm, Gt. 201 G 130 L 130 L 130 | |
| 22.1 kg | G 130 | |
| 22.1 kg | Low compression | |
| 22.1 kg | | |
| | | |
| (40.7) 15 | | |
| 22.1 | | |
| 13.3 (29.3) | | |
| 22.1 | | |
| 24.0 (52.9) | | |
| 51.1 mm (2.0118) in | | 9 |
| 51.1 | | |
| W | eplace the valve spring. | |
| 41.2 (1.6220) | | |
| 51.4 (2.0236) | | |
| 57.0 (2.2441) | | |
| 2.0 (0.0787) | | |
| 2.0 | | |
| 1.0 (0.0394) | | |

| Items to | be Inspected | | Nominal Dimensions | essi | Values Requiring Service |
|--|---|-------------------|------------------------|------|--------------------------------|
| Inner valve spring | the value of the proper ad | Replace goide. | | 14 | |
| Vetus in a | John and Arbeiter Salven | | 10.80 kg | | |
| | 38 mm, (1.50 in) G 130 | | (23.81) lb | | |
| | 38 mm, G 150 Low compression | | 10.80 | | |
| Spring force in kg, as compressed to the | 38 mm, G 150 High compression | FSO | 12.90 (28.4) | | |
| fitted length of : | 35 mm, (1.38 in) GL 150-101 ('61 & previous year models) | | 8.41 (18.5) | | |
| • | 38 mm, GL 150-103 ('62 & subsequent year models) | | 10.80 | | |
| | 38 mm, GL 201 | | 15.00 (33.1) | | |
| | | | | | |
| | G 130 | | 48.4 mm (1.9055) in | | |
| | G 150 Low compression | | 48.4 | | |
| | G 150 | | 50 F | | |
| | High compression | | 52.5 (2.0669) | | |
| Free height | GL 150-101 ('61 & previous year models) | | 40.73 (1.6035) | | |
| | GL 150-103 ('62 & prev.ous year models) | | 48.40 | | |
| | GL 201 | | 52.60 (2.0709) | | |
| * | G 1 | 30 | 20 July 2 | | |
| Tolerance of being | G 1. | 50 | | | |
| right angle | GL | 150 | | | |
| | GL : | 201 | | | |
| Dimensional allowance | between the valve guide | | (2.0836) | | |
| and the cylinder head | | | | | |
| | the engineering | 10 | 2.0 | | |
| Height of the valve | 1 | | | | |
| guide above the | | | 12 (0.4724) | | |
| | /////////////////////////////////////// | | | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|------------------------------|-----------------------|--|---------------------------|
| 0.00 | | G 130 + | |
| | | | |
| F13240) | 9.20 kg (20.3) lb | (08.1.38) | Clearonce between the |
| | 9.20 | | |
| | 11.0 (24.3) | (21.9 | |
| | 7.15 (15.8) | avior standas | |
| | 9.20 | 102.20 | |
| | 13.30 (29.3) | s and a color may the same will be seen as | |
| -1500 | 46.5 mm (1.831) in | (mrs.) | |
| | 46.5 | 100 100 | |
| | 50.4 (1.9842) | Replace the valve spring. | |
| | 39.5 (1.5551) | Real Selection and the party of the response | |
| | 47.0 (1.8504) | 10E JD | |
| | 50.5 (1.9882) | G 150 | |
| | 2.0 (0.0788) | State Sci Sci | 0 |
| | 2.0 | 105 30 | |
| | 1.0 (0.0394) | 19 | |
| | 1.0 | appet and the cylinder | |
| 0.02 mm (0.008) in | 21.65 W mil | | aint the valve guide with |
| | a chillian so | 0 | il and press it in. |
| | | DEL 10 | |
| | | * | eference value. |
| | | | |
| | | | |

| Items to be | Inspected | | | Nominal Dimensions | Values ···· Requiring Service |
|---|------------------------|--------|---|---------------------------------------|-------------------------------------|
| | | G 130 | | | |
| | | G 150 | | | |
| | Inlet valve | GL 150 | | | |
| Clearance between the | | GL 201 | | | |
| valve and the rocker arm (while cold) | a compliance | G 130 | | | |
| ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | G 150 | | | |
| | Exhaust valve | GL 150 | | | |
| , | | GL 201 | | | |
| Contact surface between th | e valve and the rocker | | | (1.42) | |
| | | | | mmett. Aleman | |
| Valve system (Rocker a | rm) | | | ni riwessi in | |
| | | G 130 | | | |
| Clearnce between the rocker arm and the shaft | | G 150 | | | More than 0.2 mm |
| | | GL 150 | | | (0.0079) ii |
| - 6 | 195 100 | GL 201 | | .938 | |
| 60 | 101 | G 130 | | $19 \ \phi \ \ \text{mm}$ (0.7480) in | |
| Wear of the rocker arm sh | aft | G 150 | | 19 φ | |
| .,,,,,,,,,,, | | GL 150 | | 17ϕ (0.6693) | |
| | | GL 201 | | 17ϕ | |
| Valve system (Tappet) | | 6. 13 | | (2.1 (1000.000) | |
| Clearance between the tap | pet and the cylinder | E4 389 | Ų | 91 | More than 0.1 mm (0.0039) in |
| the speciment too to | | G 130 | | | at (8730.0) |
| Wear of the tappet | | G 150 | | 22 φ mm | |
| wedi of the tapper | | GL 150 | | (0.8661) in | |
| | | GL 201 | | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|---------------------------------|-----------------------------|---|--|
| 0.30 mm (0.0118) in | | | |
| 0.30 | | | |
| 0.35 | | In cose of domage or weer, note | |
| (0.0138) 0.35 | | correction of replace the push rod. | |
| More than 0.0 mail (0.0118) | | Adjust the clearance. | |
| 0.35 | | | |
| | | (assessed | |
| 3 ~ 3.5 kg/m/ | | In case there is any deformation or | 0 130 |
| | | wear, make the correction. | |
| | | Thomas for all four our year against long on day partitions away basiving | ubricating off prat- CA 11 CA 24 CA 25 CA 21 |
| 0.03 mm (0.0012) in 0.03 | | (debom may basepardus | 17 Jo 4 Berj 27 Ja |
| 0.04 (0.0016) 0.04 | | Replace the rocker arm or the shaft. | |
| | 18.85 ϕ mm (0.7421) in | regulator | III gump and all pressure |
| | 18.85 ϕ | Replace it. | |
| | 16.85ϕ (0.6634) | ReplaceDiffs Dans or the value of the | States and managed and |
| | 16.85 ϕ | CONT. NO. | |
| 0.03 mm (0.0012) in | | egalage and the realister cotor and the vane. | to a count |
| Light 6 ta | 21.95 φ mm (0.8642) in | GE 201 | |
| | 21.95 ϕ | Replace the tappet. | |
| | 22.17 ϕ (0.8728) | Carredal gippeplace it. | |
| | 21.95ϕ (0.8642) | GL 201 | |
| 1500 ned wood | | In case of the deformation or wear, | a between the pump |

| Items t | o be Inspected | elanapili. | Nominal Dimensions | Values ···· Requiring Service |
|------------------------|--|------------|-----------------------|-------------------------------------|
| | | | | |
| Valve system (Push | rod) | | | 0.30 |
| Contact surface of the | e both ends of push rod | | | |
| Bend | -97 | | | More than 0.3 mm (0.0118) in |
| | Extract volum | | | 0.33 |
| | | | | |
| Lubricating system | (Oil pressure) | | • | |
| | G 130 | | | |
| | G 150 | | | |
| Lubricating oil pres- | GL 150-103 | | | Less than 2.0 kg/cm² |
| sure of 14,000 r.p.m. | ('62 & previous year mode | els) | | (28) PSI |
| (kg/cm²) | GL 150-104 ('63 & subsequent year mo | odels) | | mm 80.0 |
| | GL 201 | | | Mare 169400,2 his |
| Oil pump and oil p | ressure regulator | | | |
| On pomp and on pr | | G 130 | 12 69.81 | |
| | | G 150 | 2.58.41 | |
| Clearance between the | e rotor, vane and cover. | 0 130 | 14(2)((3) | More than 0.15 mm (0.0059) in |
| | | GL 150 | 5 88.81 | |
| | | GL 201 | | |
| alson system (Taxo | | G 130 | | |
| | | G 150 | | |
| Clearance between the | e tip of rotor and the vane. | | | |
| | | GL 150 | | |
| | | GL 201 | | |
| Delivery in I/min | | G 130 | | |
| Pump revolutions: | The state of the s | G 150 | | |
| Oil pressure: 4 kg | · I | GL 150 | | |
| 0:11 | 50°C | GL 201 | | |
| Oil temperature: | | OL 201 | | |
| | e pump-rotor shaft and the | | (0.8842) | More than 0.2 (0.0079) |

| Standard Values Limits as Assembled | for Use Manners of Service Remarks |
|--|--|
| 5 20 + 0.27 mm | aronce hetween the nump body and the vane |
| The state of the s | In case of damage or wear, make |
| | correction or replace the push rod. |
| - mat s st [8] | |
| | 81 3 4 105 10 |
| 2-251-/2 | out to the connecting peris, at the percented or second to the pinion and the retor due was const. |
| $3\sim 3.5 \ kg/cm^2$ (42.7 \sim 49.8) PSI | |
| $3\sim3.5 \text{ kg/cm}^2$ (42.7 \sim 49.8) PSI $3\sim3.5$ | the connecting parts of the committee or control of the the pinion and the retor ducant count |
| (42.7~49.8) PSI | der of the connecting person the comparator or connecting person to the connecting person of the connection and the connection of the conn |
| (42.7~49.8) PSI 3~3.5 | Eliminate the oil leakage and clogg- |

| 0.02~0.06 mm (0.0008~0.0024) in 0.02~0.06 | Replace the vane or the rotor or | the O |
|---|----------------------------------|---------------------------|
| 0.02~0.07 (0.0008~0.0028) 0.02~0.07 | cover. | |
| Less than 0.15 (0.0059) | | De l'origination |
| Less than 0.15 | Make the correction or the repla | |
| 0.02~0.14 (0.0008~0.0055) 0.02~0.14 | ment. | |
| More than 8.25 I/min (2.18) US gal/min More than 8.25 | | Fuel system (Corto |
| More than 8.25 | Correct it or replace it. | |
| Less than 10.16 (2.68) | Q1 0. | |
| 0.04 (0.0016) | 105 10 = | 2.0 189 00 - 61889 |

| Items t | o be Inspected | ioniA | Nominal Dimensions | Values Requiring Service |
|---|--|-------------|-------------------------|-----------------------------------|
| Clearance between the | e pump body and the vane | | | |
| | | G 130 | | |
| | | G 150 | | |
| Diameter of the pump | -rotor shaft | GL 150 | 13ϕ mm (0.5118) in | |
| | | GL 201 | 13 <i>φ</i> | |
| | ng parts of the pump-rotor | | | |
| | G 130 | | 64 | 0.52 -1.58 |
| Pressure at the begin- | G 150 | | | |
| ning of the action of the oil pressure regu- | GL 150-103 ('62 & previous year model | s) | | |
| lating valve (kg/cm²) | GL 150-104 ('63 & subsequent year mod | dels) | | |
| | GL 201 | | | |
| Clogging of oil filter e Fuel system (Piping Clogging, cracking, lo | and others) ose Connection and faulty | Q1 (30) | | min 80.819.0 -1 (2.770.01900) |
| Clogging, or damage | of the fuel filtering screen | | | 100 |
| Dirt or damage in the | fuel tank | | | (600,0) |
| Air cleaner | | 104 152 man | | ar.0 20.0 fazoe.o 8000. |
| Fuel system (Carbu | retor) | 1 191 | 4 la | More than 2.25 ((2,18) US got |
| Height over the fuel I | evel | G 130 | | More those \$25 |
| up to the ceiling of | | G 150 | | |
| float chamber (fuel pressure : about | 0.2 | GL 150 | | |
| kg/cm^2) | | ≒ GL 201 | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|------------------------------------|----------------|---|---------------------------------|
| 0.20~0.27 mm (0.0079~0.0106) in | | Ot 50 | fower [et valve touch limite |
| | | ingle of the (primary, community | s nego dadāte Svlave teļ sadepš |
| | | | livottie vatve) |
| | | | D. C. |
| | | | Reference values. |
| | | | |
| | | In case of the remarkable wear, | and any to before under the |
| | | correct it. | |
| 4.5 kg/cm^2 (64) PSI | | 001 D | |
| 4.5 | | | |
| 3.5 (49.8) | | | |
| 4.5 | | | |
| 4.5 | | | |
| | | In case of being dirty or deformed, replace the filter element. | Trone kelov et |
| | | ton 'va | evias eftien eiti toj strak |
| | | | 0 |
| | | Correct any of them. | |
| 3 (0.18) | | Clean or correct the screen. | |
| 4.5 (0.20) | | Clean or correct the fuel tank. | |
| 0-2-10-0.12 | | Disassemble and clean it or renew | |
| | | the element. | olivery en l oues et 10 au a |
| | | | |
| 0.0e1, 3.75,140, 5.2 | , | 2D-32AL | |
| 23 mm | | 2D-32AK | |
| (0.9055) in | | | |
| (0.7480) 16 | | | |
| (0.6299) | | | |
| 1 <i>5</i> (0.5905) | | | |

| Items to be Insp | ected | e & he meaned M | Nominal | Values Requiring Service |
|---|----------------|---------------------|---------|--------------------------|
| Power jet valve touch (suction | pressure) | G 130 | | mm 52.0 × 68.0 |
| | | G 150 | | |
| Power jet valve touch open an | gle of the (pi | rimary GL 150 | | |
| hrottle valve) | | GL 201 | | |
| P CONTRACTOR | 94.5 | | | |
| | | G 130 | | |
| At the beginning of opening the | | | | |
| valve (open angle of the prim | ary throttle v | ralve) GL 150 | | |
| half its the harley and the | | GL 201 | | |
| | | G 130 | | Sevende 5 |
| | | G 150 | | |
| First starting opening | | GL 150 | | |
| | | GL 201 | | |
| tle valve shaft C Nozzle jet idle needle valve | LEARANCE | 3140 3140 12 110 | | |
| TOTAL POLICE TO THE POLICE TO | (Congres) | | 8. | |
| Position of the idle needle vo | live (from ful | l close) | 2 | |
| THE RESERVE OF THE PARTY. | G 130 | ear trained to make | | |
| Delivery of the accelerating | G 150 | | | |
| pump at 10 strokes (cc) | GL 150 | 2D-32AL | | |
| | GL 201KA | 2D-32AM | | |
| | GL 201KB | 2D-32AL | | |
| | GL ZUIND | | | |

| Standard Values as Assembled Limits for Use | Manners of Service | Remarks |
|--|--|--|
| -60 mm Hg | | |
| 50° | | ericemance |
| 46° | | (Reference value) |
| 46° | | |
| 49° | elivery in sc/min | on: (000 r.p.m. (G130, G130) D |
| | | |
| 50° | | (Reference value) |
| 53° | | |
| 45° | | |
| 14.0° | elivery pressure as 150 | O delivering a |
| 12.5° | | |
| 12.5° | | |
| 7.0° | | |
| Less than 0.06 mm (0.0024) in | Correct it or replace the valve shaft | |
| | | certainer, damage or incomple in a redictor and water pump |
| (0.0024) in | Disassemble and clean the carbure- | certainer, damage or incomple in a redictor and water pump |
| (0.0024) in | Disassemble and clean the carbure- tor. When it's damaged correct or replace it. | certainer, damage or incomple in a redictor and water pump |
| (0.0024) in Turn it back by 1-1/2 to 1-3/4 2.5 cc (0.15) in ³ | Disassemble and clean the carburetor. When it's damaged correct or replace it. Adjust it. | caresian, damage or incomplete and water pump exicage test at the air pressure executing rate |
| (0.0024) in Turn it back by 1-1/2 to 1-3/4 2.5 cc (0.15) in ³ 3 (0.18) 3.5 (0.21) | Disassemble and clean the carburetor. When it's damaged correct or replace it. Adjust it. | caresian, damage or incomplete and water pump exicage test at the air pressure executing rate |
| (0.0024) in Turn it back by 1-1/2 to 1-3/4 2.5 cc (0.15) in ³ 3 (0.18) 3.5 (0.21) 4.5 (0.28) | Disassemble and clean the carburetor. When it's damaged correct or replace it. Adjust it. | corresion, damage or incomplete are redictor and water pump enioqe test of the air pressure continuos rate |
| (0.0024) in Turn it back by 1-1/2 to 1-3/4 2.5 cc (0.15) in ³ 3 (0.18) 3.5 (0.21) 4.5 (0.28) 0~2 (0~0.12) 2.8~5.6 (0.16~0.34) | Disassemble and clean the carburetor. When it's damaged correct or replace it. Adjust it. | corresion, damage or incomplete are redictor and water pump enioqe test of the air pressure continuos rate |
| (0.0024) in Turn it back by 1-1/2 to 1-3/4 2.5 cc (0.15) in ³ 3 (0.18) 3.5 (0.21) 4.5 (0.28) 0~2 (0~0.12) 2.8~5.6 (0.16~0.34) 4.2~7.8 (0.26~0.48) | Disassemble and clean the carburetor. When it's damaged correct or replace it. Adjust it. | corresion, damage or incomplete are redictor and water pump enioqe test of the air pressure continuos rate |
| (0.0024) in Turn it back by 1-1/2 to 1-3/4 2.5 cc (0.15) in ³ 3 (0.18) 3.5 (0.21) 4.5 (0.28) 0~2 (0~0.12) 2.8~5.6 (0.16~0.34) 4.2~7.8 (0.26~0.48) 4 (0.24), 5 (0.31), 7 (0.43) | Disassemble and clean the carburetor. When it's damaged correct or replace it. Adjust it. | a redictor and water pump has redictor and water pump encode test of the air pressur- |
| (0.0024) in Turn it back by 1-1/2 to 1-3/4 2.5 cc (0.15) in ³ 3 (0.18) 3.5 (0.21) 4.5 (0.28) 0~2 (0~0.12) 2.8~5.6 (0.16~0.34) 4.2~7.8 (0.26~0.48) 4 (0.24), 5 (0.31), 7 (0.43) | Disassemble and clean the carburetor. When it's damaged correct or replace it. Adjust it. | except test of the oir pressur- except test of the except test of the except test of the |
| (0.0024) in Turn it back by 1-1/2 to 1-3/4 2.5 cc (0.15) in ³ 3 (0.18) 3.5 (0.21) 4.5 (0.28) 0~2 (0~0.12) 2.8~5.6 (0.16~0.34) 4.2~7.8 (0.26~0.48) 4 (0.24), 5 (0.31), 7 (0.43) 2 (0.12), 4 6 (0.37) | Disassemble and clean the carburetor. When it's damaged correct or replace it. Adjust it. | a redictor and water pump has redictor and water pump encode test of the air pressur- |

Correct it.

Contact surface of the rocker arm with the rocker

ring

| Items to be | Inspected | Морави | Nominal Dimensions | Values ··· Requiring Service |
|---|--|--|--------------------------|------------------------------------|
| | n pretture) | 6 130 | | gN mm 08= |
| Performance | | | | |
| colfie velve) | | G 130 | | ** |
| Revolution speed of the | | | | |
| cam: | Delivery in cc/min | G 150 | | |
| 1,000 r.p.m. (G130, G150) | , | GL 150 | | |
| 1,100 r.p.m. (GL150, | | C1 001 | | |
| GL201) | egy Bookhovalie) | GL 201 | | |
| Head of inhaling; 500 mm high | | G 130 | | |
| 500 mm high (19.6850) in | D. II. | | | |
| Head of delivering: | Delivery pressure as | G 150 | | |
| 500 mm high | closed up in kg/cm ² | GL 150 | | |
| (19.6850) in | | GL 201 | | |
| | | 02 201 | | |
| | | | | in (60000) in |
| Corrosion, damage or inco the radiator and water pur | mplete connection of | Discreenible and | | in (800000) To |
| Cooling system (Radiate Corrosion, damage or inco the radiator and water pur Leakage test at the air pre | mplete connection of | Six connects and to the control of t | | Less than 80 % |
| Corrosion, damage or inco the radiator and water pur Leakage test at the air pre Core operating rate Pressure at the beginning o | mplete connection of mp essure (kg/cm²) | Cincosamble on tor, When it's c coplace it. | | |
| Corrosion, damage or inco the radiator and water pur Leakage test at the air pre Core operating rate Pressure at the beginning of pressure valve (kg/cm²) | emplete connection of mp essure (kg/cm²) | replace it. | | |
| Corrosion, damage or inco the radiator and water pur Leakage test at the air pre Core operating rate Pressure at the beginning o pressure valve (kg/cm²) | mplete connection of mp essure (kg/cm²) of the action of the | replace it. | | |
| Corrosion, damage or inco the radiator and water pur Leakage test at the air pre Core operating rate Pressure at the beginning o pressure valve (kg/cm²) Pressure at the beginning o negative pressure valve (kg | omplete connection of mp essure (kg/cm²) of the action of the action of the action of the g/cm²) | replace it. | 34) | |
| Corrosion, damage or incothe radiator and water pur Leakage test at the air pre Core operating rate Pressure at the beginning of pressure valve (kg/cm²) Pressure at the beginning of negative pressure valve (kg | omplete connection of mp assure (kg/cm²) of the action of the action of the g/cm²) | Acjus in | 34) 48) 18k) | Less than 80 % |
| Corrosion, damage or inco the radiator and water pur Leakage test at the air pre Core operating rate Pressure at the beginning o pressure valve (kg/cm²) Pressure at the beginning o negative pressure valve (kg | omplete connection of mp assure (kg/cm²) of the action of the action of the g/cm²) | Acjus in | 34) 43) 431 431 | Less than 80 % |
| Corrosion, damage or inco the radiator and water pur Leakage test at the air pre Core operating rate Pressure at the beginning o pressure valve (kg/cm²) Pressure at the beginning o negative pressure valve (kg | omplete connection of mp essure (kg/cm²) of the action of the estion of the g/cm²) pump) b ball bearing | Acjus in | 34) 48) 18k) | Less than 80 % |
| Corrosion, damage or inco the radiator and water pur Leakage test at the air pre Core operating rate Pressure at the beginning of pressure valve (kg/cm²) Pressure at the beginning of negative pressure valve (kg | mplete connection of mp assure (kg/cm²) of the action of the action of the g/cm²) pump) b ball bearing ature in 1/mim | Acjus in Correct in | 34) 48) 18k) | Less than 80 % |
| Corrosion, damage or incothe radiator and water purchased test at the air precedence operating rate Pressure at the beginning operessure valve (kg/cm²) Pressure at the beginning operessure valve (kg/cm²) Cooling system (Water Stagger of the water pump | mplete connection of mp assure (kg/cm²) of the action of the action of the action of the g/cm²) pump) b ball bearing ature in 1/mim a.m. i.m. | G 130 | 34) 48) 18k) | Less than 80 % |

| Standard Values as Assembled Limits for Use | Manners of Service | Remarks |
|---|---|---------------------|
| | (A) | |
| | | |
| More than 300 cc/min (0.63) US Pints/min | | |
| More than 300 | | |
| More than 800 (1.7) | OST -O | |
| More than 800 | Make correction or replacement of | |
| 0.2~0.25 kg/cm ² (2.8~3.6) PSI | parts. | |
| 0.2~0.25 | | |
| 0.13~0.18 (1.9~2.6) | with the weights being the fi | |
| 0.13~0.18 | J | |
| 0.5 kg/cm ² (7.1) PSI | Correct the radiator when bubbles come out. | |
| V.06VV.0X1 | | |
| (SM 4~0.001) | Correct it. | 0 |
| 0.44~0.50 kg/cm ² (6.3~7.1) PSI | | Reference value. |
| 0.04~0.05 (0.57~0.71) | N It is crimormal of viscal angine, | Reference value. |
| | | in galatta |
| | | |
| 0.2 mm (0.008) in | Replace it. | (api) metava plates |
| 50 I/min 13.2) U.S. gal/min | | dop pels sin |
| 50 | | |
| 60 (15.9) | | |
| (13.7) | | |

60

| Items to be Inspected | ungsM | Nominal Dimensions | Values ···· Requiring Service |
|--|------------------|-----------------------|-------------------------------------|
| Looseness of the fan | | | 30-000 no.61 |
| | G 130 | | |
| Clearance between the water pump impeller blade | G 150 | | |
| and the cover | GL 150 | | |
| The first street and the | GL 201 | * | [2,8 × 3,6) P3; |
| Temperature at the beginning of the action of the thermostat (at the atmospheric pressure) | W 450 | | BT.0-ET.0 (6.5-9.7) |
| Temperature at the full-opening of the thermostat (at the atmospheric pressure) | | | 61.0~E1:0 |
| Fastening space between fan center and bearing | G 130 G 150 | | |
| shaft | GL 150 GL 201 | | |
| Fastening space between blade and pump bearing shaft | Cayend, sheets | | 7mm gal 2:.0 12:107-73 |
| Fastening space between the bearing and water pump body | .fi, tariye5 | | |
| Electric system (Pilot lamp indication) | | | 24 (1.5 - £.8) |
| Pilot lamp showing | | | (0.37~-0.21) |
| Electric system (Wiring) | | | |
| Loose connection, cut or damaged coating of the | | | |
| electric wiring | Ji wastasa | | |
| Electric system (Ignition system) | | at (0002.0) | |
| Spark plug gap | 1 1981 | | 13.37 U.S. gal min |
| Breaker gap of the distributor contact points | 1 1/5 | | 0A |
| Electric capacity of the condenser | 1 Til | 0.22 μF | 00 " |

| Standard Values as Assembled | Limits for Use | Manners of Service | |
|--------------------------------------|----------------|--|---------------|
| | 0.5~0.65 k | Remove a (get) stoled testing the control gar | inq |
| About 15 mm (0.59)in | | Adjust it Ingl yapming all mult a aggress to agg to | |
| (0.07) | | | |
| 0.7~1.1 mm (0.0276 ~0.043) in | | metays sist (enver munon!) tinu engayon el | aoli Lucui |
| 0.7~1.1 | | In case the impeller blade is in con- | |
| 1.2~1.3 | | tact with the pump body, replace | |
| (0.0433~0.0512) | | the blade and the bearing. | |
| 1.2~1.3 | | (associated states of 14) - quito entrained so | 9.0 |
| 75° ± 2.5°C | | (alabam yang mengendur A 283) 17 4 1734 no | for |
| $(76.5^{\circ} \pm 1.5^{\circ}C)$ | | Values in parenthesis | are |
| 80°±2.5°C (90°C) | | for the wax type. | |
| 0.009~0.045 mm (0.0004~0.0018) in | | Control of the Contro | |
| 0.015~0.050 (0.0004~0.002) | | | |
| 0.009~0.045 | 11 -21 | and ongle of vacuum CLISO-101 ('61 & previous year of 000 mmHg models) Hitacht DA12-01 | |
| 0.009~0.025 (0.0004~0.001) | 41-10 | once engle of vocuum: GL150-103 ('62 & subsequent de of 50 mmHg vocu models) Hitachi D415-05, de of 50 mmHg Higgson Denso 29100-042-0 | |
| | 71-42 | needs of vocuum GL201KA | |
| | 9 -8" | If it is abnormal at usual engine | |
| | | speed, correct the electric system. | |
| | | (egyr leguti (egy) | 188 |
| 10 - 400 ft 5.00 | 20 - 20 r p.m. | Correct it. | 0.00 |
| | | haginging of bpQd to gainging and bagging and Datis-Do, Nippion | |
| 0.7~0.8 mm (0.0276~0.0315) in | | - HISID | |
| 0.5 (0.0197) | 0.7° × \$* | Correct it. | |
| | 0.18 μF | Renew it. | |

| Items t | o be Inspected | Nominal Values Dimensions Requiring Service |
|--|--|--|
| Spring force of the co | ntact points (kg) | 0.5∼0.65 kg (1.1∼1.43) lb |
| Breaker gap of the sp | ark from the primary igni- | nim El tuada nit/2.0) |
| tion coil to the second | ary (at normal temperature | |
| and in the atmosphere |) | |
| Electric system Angle advance unit | (Vacuum type) | 0.7-1.1 mm 0.02780.043) in |
| e- program | G130, G150 | 1.2~1.3 |
| Degree of vacuum at the beginning of op- | GL150-101 ('61 & previous year mode!s) | 1.2-13 |
| eration | GL150-103 ('62 & subsequent year models) | |
| | GL201KA, GL201KB | |
| Advance angle at vac degree of 150 mmHg (5.9 in Hg) | G130 G150 (Hitachi D415~070) | (O OV) |
| Advance angle at vac degree of 250 mmHg (9.8 in Hg) | G130 G150 (Hitachi D415~070) | A: (8180.0 - 9396) 080.0 - 810.0 (000.0 - A00) |
| Advance angle at vac degree of 300 mmHg (11.8 in Hg) | GL150-101 ('61 & previous year models) Hitachi D413-01 | (14), 7 × 900 0 |
| Advance angle at vac degree of 350 mmHg (13.8 in Hg) | uum GL150-103 ('62 & subsequent year models) Hitachi D415-06, Nippon Denso 29100-042-0 | 0.0040.001) |
| Advance angle at vac degree of 280 mmHg (11.0 in Hg) | GL201KA GL201KB | |
| Electric system Angle advance unit | (Centrifugal type) | |
| | G130 G150 (Hitachi D415~070) | |
| Revolution number at | GL150-101 ('61 & previous year models) Hitachi D413-01 | |
| the beginning of op- eration | GL150-103 ('62 & subsequent year models) Hitachi D415-06, Nippon Denso 29100-042-0 | |
| | GL201KA | |
| | GL201KB | |
| Advance angle at 100 | 0 r.p.m. G130, G150 | (2610 |
| | | |

| Standard Valu as Assemble | limite tor lies | Manners of Service | Remarks |
|------------------------------|--|--|--|
| | Upper Bair | Renew it | Advance engls or 500 cm |
| 6.0 mm (0.236) in | | (stations may soulvers 4.42) | At the engine speed is 700 r.p.m. |
| | E - 10 | Surme P | a publish so otpoo espaybA |
| 50 mmHg (1.97) in Hg | $20{\sim}80$ mmHg (0.788 ${\sim}3.152$) in Hg | uncon uni morposeum o co | Advence andle of \$750 n.co. |
| 115 (4.531) | 85~145 (3.349~5.713) | GENORA | |
| 120 (4.728) | 95~145 (3.743~5.713) | AMORAD | |
| 60 (2.364) | 30~90 (1.182~3.546) | to the the standard state, addition | |
| 4 ° | 3°∼5° | | |
| 8° | 7°∼9° | Replace it. | |
| 6.5° | 5.5°~7° | | 97 A.K. Japan, a Raying spikes |
| 9° | 8°~10° | | Electric system (Armeno (Armeno electr) |
| 8° | 7°~9° | Cornel & | |
| 7° | 6°~8° | | The particular are |
| 400 r.p.m | 300∼550 r.p.m. | | Riestria a |
| 300 | 200~450 | 100 W O T 123 OR | |
| 460 | 320~600 | Replace it | |
|) 500 | 400~600 | Remove the communication to be a communicati | |
| 8° | 7°∼ 9° | | |
| 15° | 14°~16° | | |

| lte | ms to be Inspected | Nominal Dimensions | Values Requiring Service |
|---|--|--------------------------|---------------------------------|
| Advance angle at | 500 rp m / | | |
| Advance diigie di | GL150-101 | | |
| | ('61 & previous year models) | | |
| Advance angle at | 2000 r.p.m. | | |
| Advance angle at | GL150-103 | | |
| Advance angle at | ('62 & subsequent year models) | | |
| Advance angle at | 1500 r.p.m. GL201KA | 85 • 143 11.2493.7131 | 115 |
| Advance angle at | 1500 r.p.m. GL201KB | 2×129 | 120 |
| Stagger of the co shaft with its drivi | ontact parts of the distributor ng shaft | 9090 (1.192 - 4.545) | 08 (n4£331 |
| | G130 | | |
| Ignition timing | G150 | | |
| (Crankshaft angle | GL150-101 ('61 & previous year models) | | |
| before top dead | GL150-103 ('62 & subsequent year models) | | |
| center) | GL201KA | | |
| | GL201KB | | |
| Electric system Dynamo (Armat | ure shaft) | 0 - 1 | |
| Bend of shaft | hope451 80 F = | 9-3 | More than 0.1 mm (0.0039) in |
| Stagger of the bea | aring | 3- 3- | |
| Electric system Dynamo (Commi | utator) | Charles - 808 | m.q.v. 2004 |
| | G130 Hitachi (300W) GT123-08 G150 Hitachi (300W) GT123-08 | $45~\phi~$ mm (1.773) in | |
| Wear of the dia- | GL150-103 ('62 & previous year models) Hitachi (200W) G115-08, GT115-01 | 37 ϕ (1.4578) | |
| meter | GL150-103 ('63 & subsequent year models) Hitachi (300W) GT123-05 | 45ϕ | |
| | | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|---------------------------------|---|--|---|
| 5° | Upper limit 400r.p.m. 5.3° Lower limit 570 r.p.m. 4.4° | 20-25170 (W002) double of the color (W002) object of the color (W002) objec | |
| 13° | 12°~14° | let say york | |
| 9° | 8°~10° | Replace it. | |
| 15° | 14°~16° | release with an area | |
| 13° | 12°~14° | Secretary of the second of the second | |
| 8.5° | 7.5°~9.5° | out of the energian, in | |
| | | In case the stagger is severe, mal | |
| 14° | | | [c100 c150 |
| 14° | | 90-65172 (W000) | G130, G150 600~650 r.p.m.: Engine |
| 8° | | Correct it. | speed |
| 14° | | MARKETTO (WOEE) is | 6 M 08 6 |
| 14° 16° | D\$1 | (103 A. previous year worken) W) GH 5-08, GTH 5-01 | GL150, GL201 500 r.p.m.: Engine speed |
| | , 18.1 | | Length of brush Historia (302) Historia (302) |
| | | Correct it. | |
| | 0.2ϕ mm (0.0079) in | Renew the bearing. | Many CELO |
| | 650 (2.12) 650 | (*62 ft provious soot products dense (*62 ft provious soot products dense (*62 ft provious soot products dense (*63 ft subsequent year models) | |
| | 43 ϕ mm (1.6942) in | (slobom your models) | 071 Mar (1007) |
| | 35ϕ (1.379) | Renew the commutator. | |
| | 43 ϕ | 80-831 - | |
| | 43 φ | (dahan tos | |

| Items to be Inspected | Mankets of Service | Nominal Dimensions | Values Requiring Service |
|-------------------------------------|--------------------|-----------------------|---------------------------------|
| | (300W) GT123-05 | 45 φ mm (1.773) in | |
| | Hitachi | 12"14" | More than 0.3 mm (0.0118) in |
| Partial wear of the diameter | Nippon Denso | | More than 0.2 (0.0079) |
| Depth from the commutator surface t | o the insula- | | Less than 0.2 |
| | | Mest | |
| Commutator surface | | 1. 12.91 2.5 | 7.3 |
| | | | |
| Byliamo (Brosh) | | 1, | |

| Dynamo (Brush) | | | |
|---------------------------|--|----------------------|--|
| 1839 Dingan in pa 0 | G130 Hitachi (300W) GT123-08 | 16 mm (0.6304) in | |
| Panel. | G150 Hitachi (300W) GT123-08 | 16 | |
| Brush and brush | GL150-103 ('62 & previous year models) Hitachi (200W) G115-08, GT115-01 | 16 | |
| spring | GL150-103 ('63 & subsequent year models) Nippon Denso (300W) 27000-064 | 22 (0.8668) | |
| Length of brush | GL150-103 ('63 & subsequent year models) Hitachi (300W) GT123-05 | 16 | |
| | GL201KA Hitachi (300W) GT123-05 | 16 | |
| | GL201KB Hitachi (300W) GT123-05 | 16 | |
| | G130 Hitachi (300W) GT123-08 | 700 g | |
| | G150 Hitachi (300W) GT123-08 | (24.7) oz | |
| Brush and brush | GL150-103 ('62 & previous year models) Hitachi (200W) G115-08, GT115-01 | 600 (21.2) | |
| spring Brush spring force | GL150-103 ('63 & subsequent year models) Nippon Denso (300W) 27000-064 | 650 (22.9) | |
| (g) | GL150-103 ('63 & subsequent year models) Hitachi (300W) GT123-05) | 0.000 | |
| | GL201KA Hitachi (300W) GT123-05 | 700 | |
| | GL201KB Hitachi (300W) GT123-05 |) | |
| Mataring tost | G130 Hitachi (300W) GT123-08 | | |
| Motering test | G150 Hitachi (300W) GT123-08 | | |
| (Standard voltage: 12V | GL150-103 ('62 & previous year models) Hitachi (200 W) G115-08 | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | emarks |
|--|---------------------------|--|-------------------|
| | 43ϕ mm (1.6942) in | CLISC IGS ('62 & prawous year models) Hinochi (200w) GT115-01 CLISC IGS ('63 & subsequent year models) Higgon Dense (300w) 27000-064 | |
| Less than 0.05 mm (0.0020) in Less than 0.05 | | Correct it. | p.m. |
| .ess thna 0.5~0.8 (0.020~0.032) | | Ditto | |
| | (20) | In case it is stained or damaged, correct it with an emery cloth, etc. | Porformance (|
| The second | 4 | agarley buol office a sta | |
| 8=410V | | agottos stay R - 5-4 | 4/4 (m.g. 190 VI) |
| | 11 mm (0.4334) in | Samuel Harris and Street Street | |
| | 11 | points at 150 rel out rates and me the front out | |
| | 11 | Clearante | |
| | 14 (0.5516) | In case the contact surface of the | |
| | 11 | bush with the commutator is not | |
| | 11 | complete, in case the bush spring pressure is not uniform or the spring | 0 |
| | 11 | thrusting power is not proper, in case the brush is badly worn or | |
| | | damaged or in case the manner of | |
| | | the brush holder to support the | |
| | | brush is not proper, correct it. | |
| | | | |
| | | Correct the stomage of the | |
| | | points of the officer of | |
| | | | es d'angel el |
|) 4∼6A | | 7. | 50∼950 r.p.m. |
| 7∼10A | | 70 | 00∼900 r.p.m. |

| Items | to be Inspected | | Nominal Dimensions | Values ··· Requiring Service |
|---------------------------------|--|---------------------|-----------------------|------------------------------------|
| | GL 150-103 ('62 & previous yea Hitachi (200W) GT115-01 | ar madels) | No. 5'00 | |
| | GL150-103 ('63 & subsequent y Nippon Denso (300W) 27000-0 | | | |
| | GL150-103 ('63 & subsequent y Hitachi (300W) GT123-05 | year models) | | |
| | GL201KA Hitachi (300W) GT1 | 23-05 | | |
| | GL201KB Hitachi (300W) GT1: | 23-05 | | |
| | onstant voltage type dyn bon pile type (12V 200W | | | 5,0 - 2,0 paul |
| Voltage regutator | No-load voltage | | | |
| (1700 r.p.m.) | Rush voltage | | | |
| | | | | |
| | • | GL150 | | |
| | Closed circuit speed | GL201 | | |
| | Closed circuit speed | - beatain) | | |
| Cutout relay | Closed circuit voltage | | | |
| | Apron Prins (Marvil 2 con | | | |
| | Closed circuit reversal current | and the second | | |
| | Corrent | att die de | | |
| | and the Arithmetical and pa | , | | |
| Output power at 80 | % load | o for all engagency | | |
| | onstant voltage type dyn rill type (12V 300W) Hita | | | |
| | | 2 ton a neuro | | |
| | | | | |
| | | | | |
| Voltage regulator | | | | |
| voitage regulator adiustment | No-load voltage | G 130 | 120 | |
| (1700 r.p.m.) | 110-1000 Follage | G 150 | | |
| | | | | |
| | | 1 | | |
| | | | | |

| Standard Values as Assembled Limits for Use | Manners of Service | Remarks |
|---|--|--|
| 4~6A | | 800∼1100 r.p.m. |
| 5∼6A | ed circuit speed | |
| | | 1000 A 0070 S |
|) | 007.0 | |
| 4~6A | spoiler fluore car | 750~950 r.p.m. |
| <u></u> | 0310 | 0.9~1.0 mm |
| | | |
| Less than 1,700 pp rs. | | Clearane of the contact |
| 14~15V | | points of the relay: |
| 8∼10V | | $0.7{\sim}0.9$ mm (0.0276 ${\sim}0.0355$) in |
| | voltage type dynamo regulator) | Clearance between the |
| | Correct the damage of the contac | relay movable piece and |
| ess than 1300 r.p.m. | points of the cut out relay and the | the iron core: $0.7{\sim}0.8~\mathrm{mm}$ |
| .ess man 1500 r.p.m. | voltage regulator. | (0.0276~0.0315) in |
| 12.7~13.4V | | Clearance between the |
| | CoPid-Parlament of the sentiate (a) | relay movable piece and |
| Less than 5A | read, of the current reading banks and policy, banks and policy banks are the policy of the policy o | the yoke: $0.4{\sim}0.5~\text{mm}$ (0.0158 ${\sim}0.0197$) in |
| ess than 1700 r.p.m. | | Chaurence Berner A. Inc. |
| | | yoks + 0.7-1.19 |
| | | |
| | | |
| | | points of the relay: $0.4\sim0.5 \text{ mm}$ |
| | | (0.0158~0.0197) in |
| | Correct the damage of the contact | Clearance between the |
| 14~15V | points of the voltage regulator | relay movable piece and |
| | | the iron core : $0.9 \sim 1.0$ mm (0.0354 \sim 0.0394) in |
| | | Clearance between the |
| | | relay movable piece and |
| | | the yoke : $0.9 \sim 1.0 \text{ mm}$ (0.0354 \sim 0.0394) in |

| elm lter | ns to be Inspected | | Nominal | Values Requiring Service |
|--------------|--|----------------|---------|--------------------------|
| .m.q.100 | G1150-108 (7) | | | |
| | Closed circuit speed | - Introduction | | |
| | The second secon | G130 | | |
| Cutout relay | Closed circuit voltage | G150 | | |
| | Closed circuit reversal | | | |
| | current | | J. | |

Electric system (Constant voltage type dynamo regulator) Performance (Tirill type (12V 200W) Hitachi T115-01, (12V 300W) Hitachi T123-01)

| | | s adicilo etnica ologas agodos | |
|--|--|-----------------------------------|--|
| /oltage regulator | | GL150 | |
| adjustment 1700 r.p.m.) | No-load voltage | GL201 | |
| | | | |
| | | | |
| officentings (Time Asserted off to an | Closed circuit speed | | |
| | | GL150 | |
| Cutout relay | Closed circuit voltage | | |
| | m video on college and all part agodie | GL201 | |
| | | | |

| Standard Values as Assembled Limits fo | or Use Manners of Service | Remarks |
|--|--|--|
| 3 | | Clearance of the contac |
| | | points of the relay: |
| Less than 1300 r.p.m. | "PED 1081 output magnifi (WOOL VIII) | 0.6~0.7 mm (0.0236~0.0276) in |
| | | Clearance between the re |
| 12.7~13.4V | Correct the damage of thecontact | . lay movable piece and the |
| | points of the cutout relay. | iron core : $0.9\sim1.0$ mm (0.0355 \sim 0.0394) in |
| | CHOST UNITED TO SERVICE OF THE PROPERTY OF THE | Clearance between the re |
| Less than 8A | and the set the autout and set the set | lay movable piece and the |
| Less man ox | ve103.torgetener | yoke : $0.2{\sim}0.3$ mm (0.0079 ${\sim}0.0118$) in |
| | | |
| | 10.130 | points of the relay: $0.4\sim0.5~\text{mm}$ |
| 12.3 - 13 - V | CLICUS College Carton Seeder | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in |
| | Correct the damage of the contact | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re |
| 14~15V | (Wind against tions but | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re lay movable piece and the |
| 14~15V | Correct the damage of the contact points of the cutout relay or the voltage regulator. | 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re lay movable piece and the iron core: 0.6~0.7 mm (0.0236~0.0276) in |
| 14~15V | Correct the damage of the contact points of the cutout relay or the voltage regulator. | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re lay movable piece and the iron core: 0.6~0.7 mm (0.0236~0.0276) in |
| 14~15V | Correct the damage of the contact points of the cutout relay or the voltage regulator. | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re iron core: 0.6~0.7 mm (0.0236~0.0276) in Clearance between the re lay movable piece and the |
| 14~15V | Correct the damage of the contact points of the cutout relay or the voltage regulator. | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re iron core: 0.6~0.7 mm (0.0236~0.0276) in Clearance between the re lay movable piece and the |
| Les time 1,000 y s. Macratovoja (08718) ao- | Correct the damage of the contact points of the cutout relay or the voltage regulator. | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re lay movable piece and the iron core: 0.6~0.7 mm (0.0236~0.0276) in Clearance between the re lay movable piece and the yoke: 0.7~1.0 mm (0.0276~0.0394) in |
| 14~15V Less than 1300 r.p.m. | Correct the damage of the contact points of the cutout relay or the voltage regulator. | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re lay movable piece and the iron core: 0.6~0.7 mm (0.0236~0.0276) in Clearance between the re lay movable piece and the yoke: 0.7~1.0 mm (0.0276~0.0394) in |
| Less than 1300 r.p.m. | Correct the damage of the contact points of the cutout relay or the voltage regulator. | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re lay movable piece and the iron core: 0.6~0.7 mm (0.0236~0.0276) in Clearance between the re lay movable piece and the yoke: 0.7~1.0 mm (0.0276~0.0394) in |
| Less than 1300 r.p.m. | Correct the damage of the contact points of the cutout relay or the voltage regulator. | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re lay movable piece and the iron core: 0.6~0.7 mm (0.0236~0.0276) in Clearance between the re lay movable piece and the yoke: 0.7~1.0 mm (0.0276~0.0394) in |
| Less than 1300 r.p.m. | Correct the damage of the contact points of the cutout relay or the voltage regulator. | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re lay movable piece and the iron core: 0.6~0.7 mm (0.0236~0.0276) i Clearance between the re lay movable piece and the yoke: 0.7~1.0 mm (0.0276~0.0394) i Clearance of the contact points of the relay: 0.6~0.7 mm (0.0236~0.0276) in Clearance between the re |
| Less than 1300 r.p.m. | Correct the damage of the contact points of the cutout relay or the voltage regulator. | points of the relay: 0.4~0.5 mm (0.0158~0.0197) in Clearance between the re lay movable piece and th iron core: 0.6~0.7 mm (0.0236~0.0276) i Clearance between the re lay movable piece and th yoke: 0.7~1.0 mm (0.0276~0.0394) i Clearance of the contact points of the relay: 0.6~0.7 mm (0.0236~0.0276) in |

| Items to | be Inspected | <u>.</u> | Nominal Dimension | Values Requiring Service |
|---|--|--------------------------|---------------------------|--------------------------------|
| | stant voltage type dyna type (12V 300W) Nippo | | | majo OSET nodi sted |
| en edino | Toping and the same | no est transco | | VALES TASS |
| Voltage regulator adjustment(2000r.p.m.) | No-load voltage | GL150 GL201 | | |
| | | | | |
| network their ry | Closed circuit speed | | | |
| Cutout relay | Closed circuit voltage | GL150 GL201 | | |
| | Closed circuit reversal current | | | |
| Output power at 80 % | load | | | |
| Electric system (AC (| Generator) ((G130) 4 | OOW Hitachi L1 | 131-06 (GL15) | . 400W Hitachi |
| Bend of shaft | 24 | Guerra | | More than 0.1 mr (0.0039) i |
| Stagger of bearing | | G 130 G 150 GL 150 | Front 6203Z Rear 6202Z | West of the second |
| | | GL 201 | •• | |
| Stagger of shaft direct | | | | More than 0.3 |

| 13.8∼14.8 V | | Correct the damage of the contact points of the cutout relay or the voltage regulator | Clearance of the contact points of the relay: 0.2~0.4 mm (0.0079~0.0016) in Clearance between the relay movable piece and the iron core: 0.8~1.3 mm (0.0315~0.0512) in Clearance between the relay movable piece and the |
|--------------------------|-----------------------|---|---|
| 13.8∼14.8 V | | points of the cutout relay or the | points of the relay: 0.2~0.4 mm (0.0079~0.0016) in Clearance between the re lay movable piece and the iron core: 0.8~1.3 mm (0.0315~0.0512) in Clearance between the re- |
| 13.8∼14.8 V | | points of the cutout relay or the | 0.2~0.4 mm (0.0079~0.0016) in Clearance between the re- lay movable piece and the iron core: 0.8~1.3 mm (0.0315~0.0512) in Clearance between the re- |
| 13.8∼14.8 V | | points of the cutout relay or the | (0.0079~0.0016) in Clearance between the re- lay movable piece and the iron core: 0.8~1.3 mm (0.0315~0.0512) in Clearance between the re- |
| 13.8∼14.8 V | | points of the cutout relay or the | iron core: 0.8~1.3 mm (0.0315~0.0512) in |
| 13.8∼14.8 V | | points of the cutout relay or the | iron core : $0.8{\sim}1.3$ mm ($0.0315{\sim}0.0512$) in Clearance between the re- |
| | | | iron core : $0.8{\sim}1.3$ mm ($0.0315{\sim}0.0512$) in Clearance between the re- |
| | | | |
| | | the second of the second second | lay movable piece and the |
| | | | |
| | | | yoke : 0.2~0.4 mm (0.0079~0.0158) in |
| | ì | All they are held property of the same than | Clearance of the contact |
| Less than 1,300 r.p.m. | | threat is builty where or an appeal or | points of the relay: |
| | | Branes, correct at | 0.4~0.8 mm (0.0158~0.0315) in |
| | | | Clearance between the re- |
| 12.7~13.4 V | | Ditto | lay movable piece and the |
| | a c | 101 | iron core : $0.8 \sim 1.3 \text{ mm}$ (0.0315 \sim 0.0512) in |
| | | | Clearance between the re- |
| Less than 8A | | | lay movable piece and the |
| | J | | yoke : 0.2~0.4 mm (0.0079~0.0158) in |
| ess than 1,700 r.p.m. | 0.80 | | |
| L 131-02 | | | |
| | | | |
|) | 7 | | |
| CO-FE L IT Identify U.S. | | | |
| | 0.2 mm (0.00788)in | | |
| | | correct it. | |
| t state but have a | | | 140.08681 of 1-11 |
| 0.1 mm | | | Stra (000,0 (D) Sea. St. |
| (0.0039) in | | | |

| Items to be Inspected | Nominal Values Dimensions Requiring Service |
|---|---|
| | H. |
| Slip ring | en engeletiet |
| | |
| Stain of slip ring surface | |
| | |
| | |
| Brush and Coil resistance | P.E.EF-B.EF |
| 100 S PER STORY | - |
| Length of the brush | 14.5 mm (0.5713) in |
| Brush and brush | (6.3713) III |
| pring | |
| yeter art to stelled and of our local | 300 g |
| Spring force (g) | (10.6) oz |
| | VACCOSII |
| mm 5.7 - 6.0 pang semi | |
| Rotor coil resistance at 20°C (Ω) | 5 Ω |
| | |
| : (\$210.0 -4500.0) | |
| Stator coil resistance at 20°C (Ω) | 0.2 Ω |
| | |
| | Man- |
| | |
| (G130) | (GL150) |
| Eletric system (Regulator) $\left(egin{array}{c} 	ext{G130} \ 	ext{G150} \end{array} ight)$ 12V H | itachi TLIZ-08 (GL150) 12V Hitachi TL 131-0 |
| Valtana anadata | G 130 |
| Voltage regulator adjustment (at 3,000 No-load voltage | |
| r.p.m.) | G 150 |

| Standard Values as Assembled Limits for Us | Manners of Service | Remarks |
|--|--|---|
| | | Christian of the con- |
| Las teay | In case the surface is stained or damaged, correct it with an emery cloth or the like. | |
| | GL 201 | response between |
| 9.5 mm (0.3743) in | In case the contact surface of brush with slip ring is not complete, in case the pressure of the spring of brush | Extent Post 09-10 |
| | is not uniform or the strength of the spring is not proper, in case the brush is badly worn or damaged or in case the manner of brush is not | |
| 14-54 (81291) mmm-513) | proper, correct it. | eciric sy stem (Sterring |
| | | |
| COC.C) | Nippon Desso | 0 |
| | Correct in | El par |
| | | |
| | Minechi 5 1) + 24 | |
| | ELANT & DRIPHENSON | |
| 13.5∼14.5 V | Correct the damage of | Yoke gap: 0.9~1.0 mn (0.0355~0.0394) ii |
| CO.OF CARD | the contact points of the voltage regulator | Core gap: $0.9\sim1.0$ Point gap: $0.4\sim0.5$ |

Point gap: 0.4~0.5 (0.0158~0.0197)

| | ms to be Inspected | | Y | | Nominal Dimensions | Values Requiring Service |
|--|------------------------|---|--|--------|---|--|
| to ring | | | | | | |
| | | 190 | GL 150 | | | |
| Voltage regulator | adjustment | 6 UBY | | | | |
| (at 3,000 r.p.m.) No-load voltage | | | | | | |
| No-10da Vollage | | | GL 201 | | | |
| | The same | | | | * | |
| | Heuse to eserti- | <u> </u> | z ant esca | ni f | | |
| Field relay | Release voltage (at | o tost s estr to | G 130 | | | |
| riela relay | A-terminal voltage) | nit to the | G 150 | | | |
| Electric system (Armature shaft | Starting moter) ((G13 | 30) 12 | V Hitachi | i S 11 | 4-54 (GL150) | Hitachi 5114-03 |
| | | | S 114-54 S 114-05 S 114-13 | i S 11 | 4-54 (GL150) | More than 0.2 mm (0.0079) in |
| Armature shaft | ne shaft | | \$ 114-54 \$ 114-05 \$ 114-13 | 1511 | 4-54 (GL150) | More than 0.2 mm |
| Armature shaft Bearing gap with th | ne shaft | Hitachi | \$ 114-54 \$ 114-05 \$ 114-13 | i S 11 | 4-54 (GL150) | More than 0.2 mm (0.0079) in |
| Armature shaft Bearing gap with th | ne shaft | Hitachi | \$ 114-54 \$ 114-05 \$ 114-13 | 15 11 | 4-54 (GL150) | More than 0.2 mm (0.0079) in More than 0.1 (0.0039) |
| Armature shaft Bearing gap with the Wear of shaft Bend of shaft | ne shaft | Hitachi | \$ 114-54 \$ 114-05 \$ 114-13 | 1511 | 4-54 (GL150) | More than 0.2 mm (0.0079) in More than 0.1 (0.0039) More than 0.1 |
| Armature shaft Bearing gap with the Wear of shaft Bend of shaft | ne shaft | Hitachi | \$ 114-54 \$ 114-05 \$ 114-13 | | 4-54 $\left(\begin{array}{c} {\sf GL150} \\ {\sf GL201} \end{array}\right)$ $\frac{33\ \phi}{(1.3002)\ {\sf in}}$ | More than 0.2 mm (0.0079) in More than 0.1 (0.0039) More than 0.1 |
| Armature shaft Bearing gap with the Wear of shaft Bend of shaft Commutator | ne shaft | Hitachi | \$ 114-54 \$ 114-05 \$ 114-13 Denso | | 33 φ | More than 0.2 mm (0.0079) in More than 0.1 (0.0039) More than 0.1 |
| Armature shaft Bearing gap with the Wear of shaft Bend of shaft Commutator | ter | Hitachi Nippon Hitachi | S 114-54 S 114-05 S 114-13 Denso S 114-54 S 114-05 S 114-13 | | $33 \phi \ (1.3002) \text{ in}$ 34ϕ | More than 0.2 mm (0.0079) in More than 0.1 (0.0039) More than 0.1 |
| Armature shaft Bearing gap with the Wear of shaft Bend of shaft Commutator Wear of the diame | ter | Hitachi Nippon Hitachi Hitachi | \$ 114-54 \$ 114-05 \$ 114-13 Denso \$ 114-54 \$ 114-05 \$ 114-13 Denso \$ 114-45 \$ 114-05 | | 33ϕ (1.3002) in 34ϕ (1.3396) 36ϕ | More than 0.2 mm (0.0079) in More than 0.1 (0.0039) More than 0.1 More than 0.1 |
| Armature shaft Bearing gap with the Wear of shaft Bend of shaft Commutator Wear of the diame | ter diameter | Hitachi Nippon Hitachi Hitachi | S 114-54 S 114-05 S 114-13 Denso S 114-54 S 114-05 S 114-13 Denso S 114-45 S 114-05 S 114-13 | | 33ϕ (1.3002) in 34ϕ (1.3396) 36ϕ | More than 0.2 mm (0.0079) in More than 0.1 (0.0039) More than 0.1 |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|--|--|--|--|
| | | to and the restorie to stillness on | Clearance of the conta |
| | | Surrought convert thought you bear | points of the relay: |
| | | yan, all a salah sal | 0.4~0.5 mm (0.0158~0.0197) in |
| | | | Clearance between the re |
| 13.5~14.5 V | | and the second second second | lay movable piece and th |
| | | to end and contemplate of the | iron core : $0.6{\sim}0.7$ mm (0.0236 ${\sim}0.0276$) ir |
| | | See So With the summer close is not | Yoke clearance between th |
| | | something the manth or during to | movable iron piece and th |
| | (100/15.0) | Street Street and Light or the suring | contact iron : $0.9{\sim}1.0$ mm (0.0355 ${\sim}0.0394$) in |
| | | more adjubited from the desired or reserve or | Yoke gap: 0.2∼0.35 mm (0.0079∼0.0138) in |
| 10.5∼11.5 V | | | Core gap: 0.5~0.6 (0.0197~0.0236) |
| | | | Point gap: 0.4~0.5 (0.0158~0.0197) |
| Nippon Denso NI-EE | (D) | places | nolming grains 18 |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 | | Renew the bearing | Starting police Starting police Clearance between the starting |
| 0.01~0.03 mm .000394~0.00118) in | | 1 2 mounts | avining gentration of the starting contracts and maswing gentration of the starting gentration of the |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 | | Renew the bearing | Charance between the storting |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 | | Renew the bearing | Charance between the storting |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 | | Renew the bearing Replace the armature. | Charance between the storting |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 | 31 ¢ (1.2214) in | Renew the bearing Replace the armature. Correct it. | controts set reswind somment of the party party and the party party and the party party and the party party and the party part |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 | 31 \$\phi\$ | Renew the bearing Replace the armature. Correct it. | onirotz adł naswtod sommosili mar. gal |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 | 31 φ (1.2214) in 32 φ | Renew the bearing Replace the armature. Correct it. | Contracts between the storilor |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 (0.0034) | 31 ϕ (1.2214) in 32 ϕ (1.2608) 33 ϕ | Renew the bearing Replace the armature. Correct it. | controtz adi naswisa sanana si di sanana si |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 (0.0034) Less than 0.05 mm (0.0020) im | 31ϕ (1.2214) in 32ϕ (1.2608) 33ϕ | Renew the bearing Replace the armature. Correct it. | Courage Seasons of the storing of th |
| 0.01~0.03 mm .000394~0.00118) in Less than 0.085 (0.0034) | 31ϕ (1.2214) in 32ϕ (1.2608) 33ϕ | Renew the bearing Replace the armature. Correct it. | Clearance between the storilon |

| ltem | s to be Inspected | as to none | Nominal Dimensions | Values Requiring Service |
|--|--|--|--|--|
| ommutator surface | | | | . , |
| rush, Pinion and | d performance | | | visi-sp. |
| | | Hitachi S 114-54 | 14 mm (0.5516) in | |
| | Length of brush | Hitachi S 114-05 S 114-13 | 20 (0.7880) | |
| rush and brush spr | g slo? | Hitachi S 114-54 | 800 a | |
| | Spring force (g) | Hitachi S 114-05 S 114-13 | 900 (31.7) | |
| | | Nippon Denso | 850 (30.0) | |
| tarting pinion | | Hitachi S | | (il-tirk some 2 new) |
| tantili ee v | n the starting pinion and | | 114-54 | mm 50,0 = 30.0 at 101.100.0 = 300.0 |
| Clearance between | n the starting pinion and | | 114-54 114-05 114-13 | mms50,0 = 30.0 n1(0) 100,0 = 300 |
| Clearance between | when fully pushed through tripping PIN 33±0.2 | the Hitachi S S Nippon Do | 114-54 114-05 114-13 enso | mms50,0 = 30.0 n1(0) 100,0 = 300 |
| Clearance between | WHEN FULLY PUSHED THROUGH TRIPPING PIN | the Hitachi S Nippon D Hitachi S | 114-54 114-05 114-13 enso 114-05 114-13 | mms50,0 = 30.0 n1(0) 100,0 = 300 |
| Clearance between ing gear Distance adjusting | WHEN FULLY PUSHED THROUGH TRIPPING PIN | the Hitachi S S Nippon Do | 114-54 114-05 114-13 enso 114-05 114-13 | 200 and re- (\$230.0) |
| Clearance between ing gear Distance adjusting magnetic switch | THROUGH TRIPPING PIN | the Hitachi S Nippon D Hitachi S Nippon D Hitachi S | 114-54 114-05 114-13 enso 114-05 114-05 114-05 114-13 | 200 and re- (\$230.0) |
| Clearance between ing gear Distance adjusting magnetic switch Clearance between | WHEN FULLY PUSHED THROUGH TRIPPING PIN | the Hitachi S Nippon D Hitachi S Nippon D Hitachi S Nippon D Hitachi S Nippon D Hitachi S 114-54 | 114-54 114-05 114-13 enso 114-05 114-13 enso 114-05 114-13 | 200 and re- (\$230.0) |
| Clearance between ing gear Distance adjusting magnetic switch | when fully Pushed Through Tripping Pin 33±0.2 | Hitachi S Nippon Do Hitachi S Nippon D Hitachi S Nippon D Hitachi S Nippon D Hitachi S 114-54 | 114-54 114-05 114-13 enso 114-05 114-13 enso 114-05 114-13 enso | 200 and re- (\$230.0) |
| Clearance between ing gear Distance adjusting magnetic switch Clearance between | the pully pushed the pushed of | Hitachi S Nippon D Hitachi S Nippon D Hitachi S Nippon D Hitachi S 114-54 Hitachi S 114-05 Hitachi S 114-13 | 114-54 114-05 114-13 enso 114-05 114-13 enso 114-05 114-13 enso | 280.0 gudi re- (\$230.0) |
| Clearance between ing gear Distance adjusting magnetic switch Clearance between No-load revolution | en pinion stopper and pin Less than 12V 40A Less than 11.6V 60A | Hitachi S Nippon D Hitachi S 114-54 Hitachi S Nippon D Hitachi S 114-54 | 114-54 114-05 114-13 enso 114-05 114-13 enso 114-05 114-13 enso 4 5 3 | 200 and re- (\$230.0) |
| Clearance between ing gear Distance adjusting magnetic switch Clearance between No-load revolution | en pinion stopper and pin Less than 12V 40A Less than 11.6V 60A Less than 11V 50A | Hitachi S Nippon D Hitachi S Nippon D Hitachi S Nippon D Hitachi S 114-54 Hitachi S 114-13 Nippon Denso Hitachi S 114-54 S 114-05 | 114-54 114-05 114-13 enso 114-05 114-13 enso 114-05 114-13 enso 4 5 | 280.0 gudi re- (\$230.0) |

| | | T. T. C. | |
|--|----------------|--|-----------------------------|
| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
| ngen trop (peder n.e.) | | In case the surface is stained or | noticed police |
| | | damaged, correct it with an emery | |
| 100 Fred 800 | | cloth, etc. | mediciand redes |
| Acre ther 1.75 mAg 18.320mms | | 210A Hitochi Sila-Sa | nudt sead |
| 63 5124 | 9.5 mm | In case the contact surface of the | mpdf recover to the flugs. |
| | (0.3743) in | brush with the commutator is not | |
| | 10 (0.394) | complete, in case the brush spring | |
| | 15 | pressure is not uniform or the spring | |
| | (0.591) | thrusting power is not proper, in | |
| | | case the brush is badly worm or | |
| | | damaged or in case the manner of | |
| | | the brush holder to support the | |
| | | brush is not proper, correct it. | |
| | | In case of its remarkable wear or | |
| | | damage, correct it or renew the | |
| | | pinion. | |
| 3∼5 mm (0.0197) in 3∼6 (0.1182∼0.2364) | | | Nometa ett to netterinomone |
| The second secon |) | | |
| | | Measure the dimension when plung- | |
| 33±0.2 mm | | er gap is 0 by compressing plunger | |
| (1.3002 ± 0.0079) in | | shaft. | |
| TOWN TOWN | , | | |
| 0.6~2.7 (0.0236~0.1064) | | | |
| Nore than 7,000 r.p.m. | | Section probably and published in | ay of oils he steples |
| Nore than 7,000 | | | |
| Nore than 3,000 | | | |
| Nore than 0.35 m-kg (2.5) ft-lb | | | |
| Nore than 0.4 | | | test solleigme. |
| (2.9) Nore than 0.7 | | | migra to noto see |
| (5.1) | | | |

| estate lite | ems to be Inspected | d to me all | Nominal Dimensions | Values ···· Requiring Service |
|---|----------------------|--------------------------------|--|-------------------------------------|
| oading | Less than 170A | Hitachi S 114-54 | | |
| evolution | Less than 10.5V 150A | Hitachi S 114-05 S 114-13 | | |
| number | Less than 9.5V 230A | Nippon Denso | | |
| | Less than 410A | Hitachi S 114-54 | | |
| Binding torque | Less than 9.5V 500A | Hitachi \$ 114-05 \$ 114-13 | | |
| | Less than 7.7V 380A | Nippon Denso | 10 20 14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| Loose fitting | . prince will rea | mpplinedonal aminos. | m 11323 at | |
| Function of the m | agnetic switch | on a reward promoter | | |
| | | il sees of to disgramsh | | |
| Electric system | (Battery) | | | |
| Terminals of the | battery | | | |
| Plates, separato | rs, troughs, etc. | -According | | |
| Contamination o | f the electrolyte | | 99 95) | mm 2-E m (5010.0) |
| Specific gravity | of the electrolyte | region brise | | (0.1182-0.2351) |
| (20°C after char | ging) | | | |
| | - Soula nace | G 130 | da e | |
| G 150 Capacity (at the rate of 20 hours) GL 150 | | | | |
| | | | | |
| | | GL 201 | | |
| Terminal voltag | e (single trough) | Maprin Dallya | | Less than 1.8V |
| Height of the level of electrolyte above plates | | | | том 7,000 г.р. m. ² |
| Height of the le | | | | |
| Height of the le | 1 1000 1 AV 100 A | | | |
| Height of the le | | | | |
| Height of the le | est | | | 020,8 no h |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|--------------------------------------|----------------|---|---------------------------------------|
| More than 1,900 r.p.m. | | | Tree services |
| More than 1,700 | | | |
| More than 800 | | | nozosa igina |
| More than 1.15 m-kg (8.320) ft-lb | | | for anything Constraint sebail. |
| More than 0.9 (6.512) | | | |
| More than 1.0 (7.235) | | | |
| | | Correct it | Annul III |
| | | Correct any fault | a vitaete |
| | | 102 Ja | |
| | | | ect o |
| 1 -3.5 mg. en | , | In cace any of them is rusted or corroded, correct it. | CCLES to analyze |
| | | In case any of them is damaged, correct it. | meny francis |
| san re- To-s | | In case the contamination is remarkable, renew the electrolyte. | - Rest logic |
| Lar Car 110 | | | The temperature conver |
| 1.26 | 1.20 | Adjust it | sion coefficient is 0.0007 per °C: |
| 12V 40AH | | | |
|) 12V 40AH | | | |
| 12V 50AH | | | |
| More than 2.1V | | Recharge it | 1,23 |
| Electrolyte above of | | When liquid surface is low replenish | |
| he standard level | | with distilled water | |

Carry it on for more than 30 minutes

| lten | ns to be Inspected | | Nominal Dimensions | Values Requiring Service |
|--|---|---------------|-----------------------|--------------------------------|
| podug | G 130 | - 198 | at g 1000, f and a | |
| | G 150 (Low compression) | | | |
| Compression | G 150 (High compression) | | | |
| oressure of cylinder (kg/cm²) | GL 150 | | | |
| cymiaer (kg/ cm· / | GL 201KA | | | |
| | GL 201KB | | | |
| | | G 130 | | |
| Difference between compression pressures in the respective cylinders | | G 150 | | |
| | | GL 150 | | |
| | | GL 201 | | |
| Carela National (| G 130 | | | |
| Pressure of | G 150 | | | |
| lubricating oil | GL 150-103 ('62 & previous ye | ar models) | | |
| (1,400 r.p.m.) | GL 150-104 ('62 & subsequent year models) | | | |
| | GL 201 | | | |
| Output test | abelesticals and see | nen aldosinis | | |

| Standard Values as Assembled | Limits for Use | Manners of Service | Remarks |
|--|----------------|--------------------|--|
| More than 9.9 kg/cm (141) PSI More than 9.9 More than 10.8 (154) 9.2 (131) 11.9 (169) 12.6 (179) | 2 | Correct it | About 300 r.p.m. About 250 About 300 |
| Less than $\pm 5\%$ to the mean value | | Correct it | About 300 About 250 About 300 |
| $\begin{cases} 1 \\ 3 \sim 3.5 \text{ kg/cm}^2 \\ (43 \sim 50) \text{ PSI} \end{cases}$ $\begin{cases} 4 \sim 4.5 \\ (57 \sim 64) \end{cases}$ | | Adjust it | |
| More than 90% | | | |
| Less than 110% | | | |