Section: ENGINE

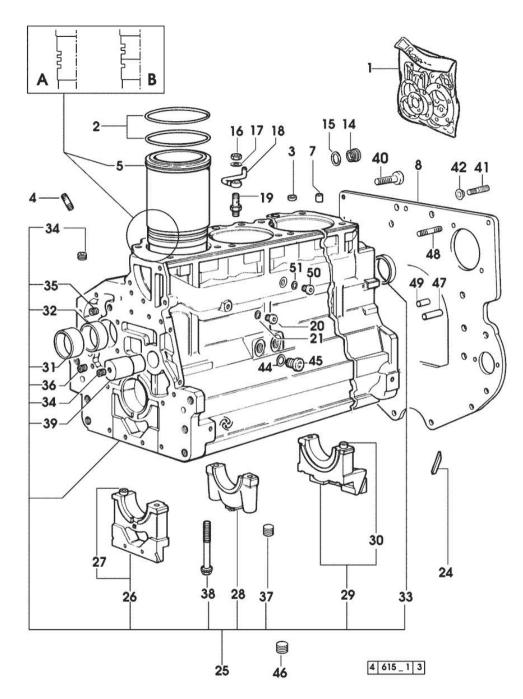
Ref: 01.00.2

| <b>Notes:</b><br>[H-478-4 -> |                 |    |  |
|------------------------------|-----------------|----|--|
|                              |                 |    |  |
|                              | · 10500]        |    |  |
|                              | -               |    |  |
| 1                            | 0.089.0050.6    |    | gasket set                             |
|                              |                 |    | - FOR ENGINE MOUNTING                  |
| 2                            | 2.1519.096.0/20 | 12 | special oil seal 107.67x1.78           |
|                              |                 |    | 25080 <=                               |
| 2                            | 2.1539.193.0    | 8  | special oil seal 107.62x2.62           |
|                              |                 |    | => 25081                               |
| 3                            | 2.1559.188.2    | 4  | bush 11.4 x 14 x16                     |
| 4                            | 2.0432.003.7    | 12 | stud bolt m 8 p.1.25 / p.1 x 20        |
| 5                            | 0.009.7500.0/10 | 4  | engine cylinder                        |
|                              |                 |    | () <- = A                              |
| 5                            | 0.011.0183.0/20 | 4  | engine cylinder                        |
|                              |                 |    | => 25081                               |
| 5                            | 0.011.0582.0    | 4  | engine cylinder                        |
|                              |                 |    | = B                                    |
|                              |                 |    | => () - 25080 <=                       |
| 7                            | 2.1549.154.2    | 4  | bush 4.8x5.8x16                        |
| 3                            | 0.066.1130.0/20 | 1  | flange                                 |
| 14                           | 2.3199.405.2    | 1  | plug m 28 p.1.5                        |
| 15                           | 2.1539.047.0    | 1  | special oil seal 26.7x1.78             |
| 16                           | 2.1099.108.2    | 4  | special nut m 10 p.1                   |
| 17                           | 2.1560.006.0    | 8  | gasket 10.2 x 16                       |
| 18                           | 0.086.1550.2    | 4  | sprayer nozzle                         |
| 19                           | 0.065.1160.3/20 | 4  | valve                                  |
| 20                           | 2.3199.292.0    | 1  | plug 1/4" gas                          |
| 21                           | 2.1560.010.0    | 1  | gasket 14.2 x 20                       |
| 24                           | 0.066.1152.0/10 | 4  | gasket                                 |
| 25                           | 0.082.1110.6/20 | 1  | crankcase                              |
|                              |                 |    | * 25080 <=                             |
|                              |                 |    | - N.4 011.0183.0/10 - N.8 2.1539.193.0 |
| 26                           | 0.065.1112.7    | 1  | support                                |
| 27                           | 2.1699.165.0    | 1  | bush 12.3x15x16                        |
| 28                           | 0.065.1114.0/10 | 3  | support                                |
| 29                           | 0.065.1116.3    | 1  | support                                |
| 30                           | 2.1699.165.0    | 1  | bush 12.3x15x16                        |
| 31                           | 0.065.1141.0    | 1  | special bushing 59X55X30               |
| 32                           | 0.065.1140.0    | 4  | special bushing 59X55X20               |
| 33                           | 2.3179.012.0    | 1  | plug 60                                |
| 34                           | 2.3130.001.1    | 11 | plug 1/8" gas                          |
| 35                           | 2.3130.001.1    | 2  | plug 1/4" gas                          |
| 36                           | 2.3130.002.1    | 5  | plug 3/8" gas                          |
| 37                           | 2.1324.011.0    | 1  | plug                                   |

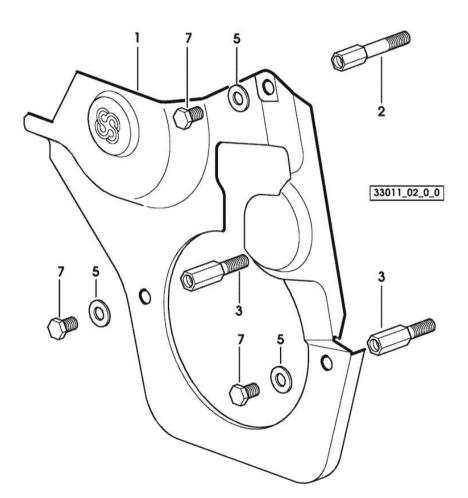
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Section: ENGINE CRANKCASE

Ref: 01.00.2



| CIUII I | CNAINCAGE       |     |                               |  |  |
|---------|-----------------|-----|-------------------------------|--|--|
| Fig.    | P/n             | QTY | Name                          |  |  |
| 20      | 0.065.1117.0    | 10  |                               |  |  |
| 38      | 0.065.1117.0    | 10  | screw m 12 x 100              |  |  |
| 39      | 0.066.1151.0    | 1   | pin                           |  |  |
| 40      | 2.0112.511.2    | 8   | screw m 14 p.2 x 30           |  |  |
| 41      | 2.0439.250.7    | 1   | stud bolt m 12 / m 10 x 30    |  |  |
| 42      | 0.011.9294.0/10 | 1   | bush                          |  |  |
| 44      | 2.1560.017.0    | 1   | gasket 22.2 x 27              |  |  |
| 45      | 2.3120.002.4    | 1   | plug m 22 x 1.5               |  |  |
| 46      | 2.3130.003.1    | 1   | plug 3/8" gas                 |  |  |
| 47      | 2.1651.917.0    | 1   | cylindrical plug 12x40        |  |  |
| 48      | 2.0432.255.7    | 2   | stud bolt m 12 p.1.75-1.25x25 |  |  |
| 49      | 2.1651.912.0    | 2   | cylindrical plug 12x28        |  |  |
| 50      | 2.3120.101.0    | 1   | plug m 18 p.1.5               |  |  |
|         |                 |     | => 25081                      |  |  |
| 51      | 2.1560.014.0    | 1   | washer 18.2 x 24              |  |  |

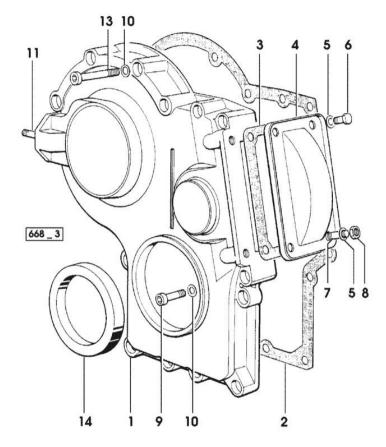


Section: ENGINE

Ref: 01.00.3

# TIMING CASE

| Fig.     | P/n             | QTY | Name  |
|----------|-----------------|-----|---|
| Notes:   | > 105001        |     |   |
| [H-478-4 | -> 10300]       |     |   |
| 1        | 0.007.1262.3/50 | 1   | guard   |
| 2        | 0.007.1271.0/10 | 1   | small column m $8 \text{ p.1.25 / L} = \text{mm } 60$ |
| 3        | 0.007.1272.0/10 | 2   | small column m $8 \text{ p.1.25 / L} = \text{mm } 50$ |
| 5        | 2.1310.004.2    | 3   | flat washer 8.4x17                                    |
| 7        | 2.0112.205.2    | 3   | screw m 8 n.1.25 x 16                                 |



Section: ENGINE

Ref: 01.00.8

# TIMING CASE

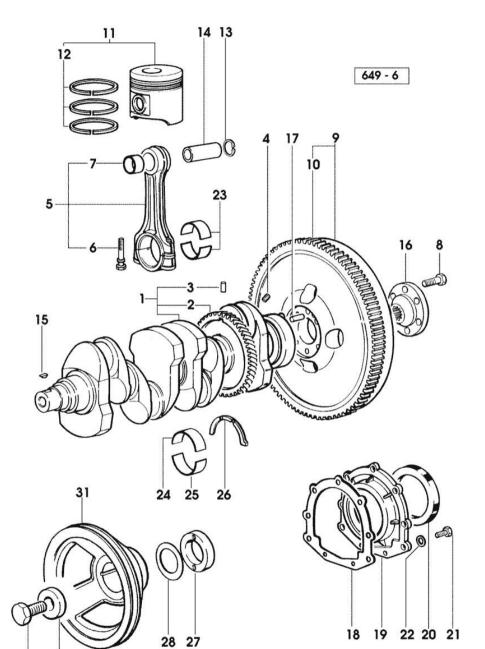
| Fig.                 | P/n             | QTY | Name                            |
|----------------------|-----------------|-----|---------------------------------|
| Notes:<br>[H-478-4 - | > 10500]        |     |                                 |
| 1                    | 0.065.1132.0/60 | 1   | guard                           |
| 2                    | 0.065.1150.0/30 | 1   | gasket                          |
| 3                    | 0.065.1152.0    | 1   | gasket                          |
| 4                    | 0.065.1151.0    | 1   | cover                           |
| 5                    | 2.1470.004.2    | 4   | lock washer 8                   |
| 6                    | 2.0112.205.2    | 2   | screw m 8 p.1.25 x 16           |
| 7                    | 2.0432.003.7    | 2   | stud bolt m 8 p.1.25 / p.1 x 20 |
| 8                    | 2.1011.405.2    | 2   | nut m 8 p.1                     |
| 9                    | 2.0312.208.2    | 8   | screw m 8 p.1.25 x 25           |
| 10                   | 2.1480.014.1    | 15  | washer 8                        |
| 11                   | 2.0432.003.7    | 2   | stud bolt m 8 p.1.25 / p.1 x 20 |
| 13                   | 2.0312.214.1    | 7   | screw m 8 p.1.25 x 40           |
| 14                   | 2.1529.141.0    | 1   | special oil seal                |

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Section: ENGINE Ref: 01.00.9

## CRANKSHAFT

| Fig.        | P/n                             | QTY | Name  |     |
|-------------|---------------------------------|-----|---|-----|
| Notes:      |                                 |     |   |     |
| [H-478-4 -> | > 10500]                        |     |   |     |
|             |                                 |     |   |     |
| 1           | 0.086.1210.3/30                 | 1   | crankshaft  |     |
| 2           | 0.065.1211.0/10                 | 1   | crown wheel   |     |
| 3           | 2.1630.608.0                    | 1   | pin 6x16  |     |
| 4           | 2.3130.001.1                    | 4   | plug 1/8" gas   |     |
| 5           | 0.078.1220.3/30                 | 4   | engine connecting rod   |     |
| 6           | 2.0399.213.0                    | 8   | screw m 12 p.1.25x61.5  |     |
| 7           | 2.1559.114.0/10                 | 4   | special bushing   |     |
| 8           | 2.0139.022.2                    | 6   | screw m 12 p.1.25x55  |     |
| 9           | 0.007.1702.3/30                 | 1   | flywheel  |     |
|             |                                 |     | -> 15575  |     |
| 9           | 0.008.4049.3                    | 1   | flywheel mm 373   |     |
|             |                                 |     | 15574 <-  |     |
| 10          | 0.065.1242.0                    | 1   | crown wheel $Z = 123$   |     |
| 11          | 0.086.0060.6/30                 | 4   | complete piston   |     |
| 11          | 0.379.0060.6                    | 4   | complete piston   |     |
|             |                                 |     | - EXPORT U.S.A.   |     |
| 12          | 0.086.0052.6/10                 | 4   | piston ring set   |     |
| 13          | 2.1411.014.1                    | 8   | circlip 35  |     |
| 14          | 0.078.1236.0                    | 4   | piston pin Ø 18 / Ø 35 / L = mm 86                            |     |
| 15          | 2.1720.006.0                    | 2   | key 4x6.5   |     |
| 16          | 0.008.5543.0                    | 1   | flange  |     |
| 17          | 2.1652.915.0                    | 1   | cylindrical plug 12x35  |     |
| 18          | 0.065.1254.0/20                 | 1   | gasket  |     |
| 19          | 0.007.1711.0/10                 | 1   | cover   |     |
| 20          | 2.1529.073.0                    | 1   | special oil seal 110x130x13                                   |     |
| 21          | 2.0112.207.2                    | 9   | screw m 8 p 1.25 x 20   |     |
| 22          | 2.1475.002.2                    | 9   | conical washer 8  |     |
| 23          | 0.065.1225.0                    | 8   | con.rod half bushing STANDARD - $A = 28.75 \rightarrow 29.00$ |     |
| 23          | 0.065.1225.7                    | ~   | con.rod half bushing - mm 0.25                                |     |
| 23          | 0.065.1225.8                    |     | con.rod half bushing - mm 0.50                                |     |
| 24          | 0.065.1215.0                    | 5   | main half bushing STANDARD                                    |     |
| 24          | 0.065.1215.7                    | 2   | main half bushing - mm 0.25                                   |     |
| 24          | 0.065.1215.7                    |     | main half bushing - mm 0.50                                   |     |
| 25          | 0.065.1216.0                    | 5   | main half bushing   |     |
| 25<br>25    | 0.065.1216.7                    | 3   | main half bushing - mm 0.25                                   |     |
| 25<br>25    | 0.065.1216.8                    |     | main half bushing - mm 0.50                                   |     |
| 26          | 0.065.1218.0                    | 4   | shim STANDARD   |     |
| 26<br>26    | 0.065.1218.7                    | 7   | shim + mm 0.10  |     |
| 26<br>26    | 0.065.1218.8                    |     | shim + mm 0.15  |     |
|             |                                 | 1   |   |     |
|             |                                 |     |   | 1/2 |
| 27<br>28    | 0.085.1248.0/10<br>2.1589.189.0 | 1 3 | hub<br>shoulder ring mm 1.00                                  |     |



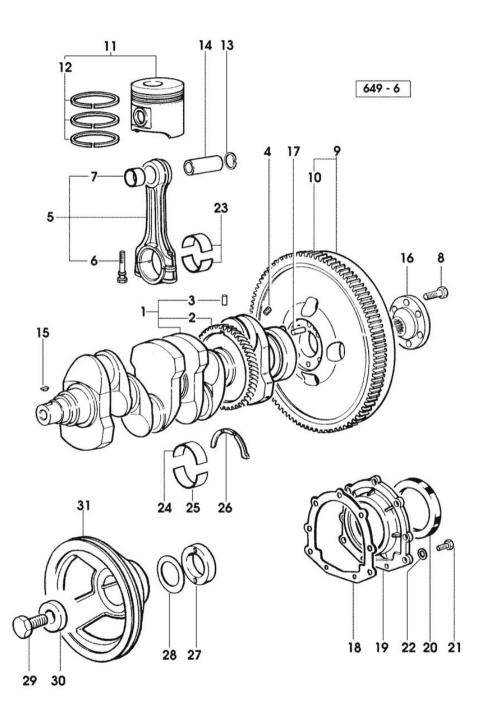
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Section: ENGINE

Ref: 01.00.9



| Fig. | P/n             | QTY | Name                |
|------|-----------------|-----|---------------------|
| 29   | 2.0399.144.7/10 | 1   | screw m 20 p.1.5x51 |
| 30   | 2.1599.524.7    | 1   | washer 21x60x12     |
| 31   | 0.007.1457.0/20 | 1   | pulley              |

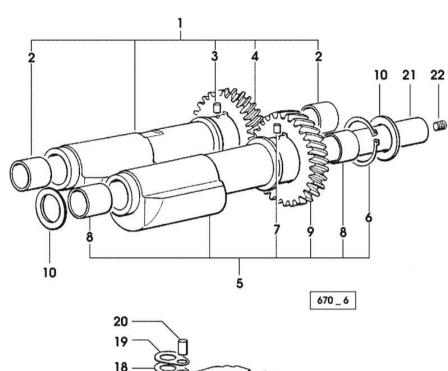


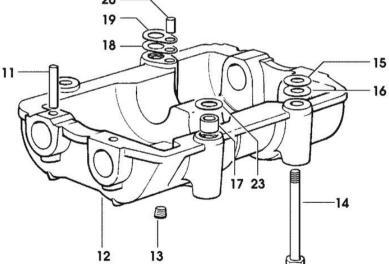
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Section: ENGINE

## COUNTERWEIGHTS

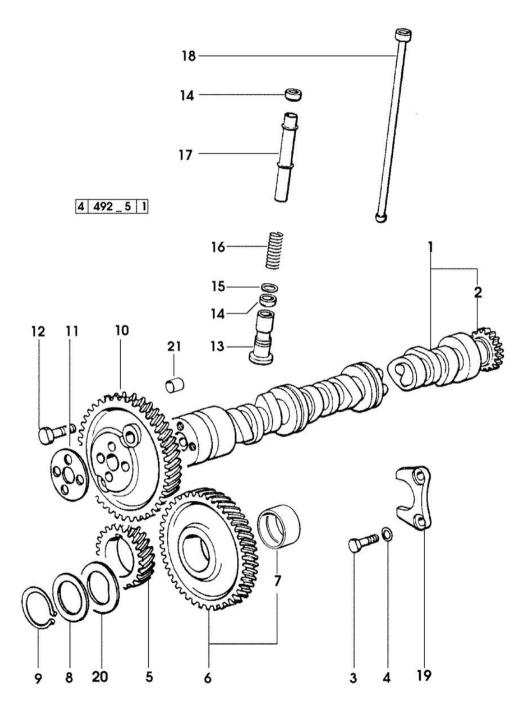
| Fig.                  | P/n             | QTY | Name                      |
|-----------------------|-----------------|-----|---------------------------|
| NT 4                  |                 |     |                           |
| Notes:<br>[H-478-4 -> | × 105001        |     |                           |
| [11-476-4-            | > 10500j        |     |                           |
| 1                     | 0.086.1233.3/30 | 1   | mass sx/lh/li             |
| 2                     | 2.1559.115.0    | 2   | special bushing 26x30x30  |
| 3                     | 2.1652.302.0    | 1   | roll pin 4x6              |
| 4                     | 0.000.0000.1    |     | cannot be supplied        |
| 5                     | 0.065.1233.3/30 | 1   | mass dx/rh/re             |
| 6                     | 2.1410.018.1    | 1   | circlip 45                |
| 7                     | 2.1652.302.0    | 1   | roll pin 4x6              |
| 8                     | 2.1559.115.0    | 2   | special bushing 26x30x30  |
| 9                     | 0.000.0000.1    |     | cannot be supplied        |
| 10                    | 2.1589.185.0    | 4   | shoulder ring 26.1x34x1   |
| 11                    | 2.1631.717.0    | 2   | roll pin 8 x 40           |
| 12                    | 0.086.1231.0/10 | 1   | box                       |
| 13                    | 2.3130.001.1    | 4   | plug 1/8" gas             |
| 14                    | 2.0139.028.2    | 4   | screw m 12                |
| 15                    | 2.1579.629.0    |     | spacer 12.5x26x0.1        |
| 16                    | 2.1589.049.0    |     | shoulder ring 12.5x26x0.3 |
| 17                    | 2.1579.626.0    | 2   | spacer 13.2x16x11         |
| 18                    | 2.1589.140.0    |     | shoulder ring mm 0.1      |
| 19                    | 2.1589.139.0    |     | shoulder ring mm 0.3      |
| 20                    | 2.1699.191.0    | 1   | bush 7x10x16              |
| 21                    | 0.065.1234.0/10 | 2   | shaft                     |
| 22                    | 2.3130.001.1    | 1   | plug 1/8" gas             |
| 23                    | 2.1579.628.0    |     | spacer 16.5x26x0.1        |
| 23                    | 2.1589.048.0    |     | shoulder ring 16.5x26x0.3 |





Section: ENGINE **CAMSHAFT** 

Ref: 01.00.15



| Fig.       | P/n             | QTY | Name                               |
|------------|-----------------|-----|------------------------------------|
| Notes:     |                 |     |                                    |
| [H-478-4 - | -> 105001       |     |                                    |
|            | ,               |     |                                    |
| 1          | 0.007.1712.3/10 | 1   | camshaft                           |
|            |                 |     | - EXPORT U.S.A.                    |
| 1          | 0.066.1310.3/40 | 1   | camshaft                           |
| 2          | 0.065.1324.0/10 | 1   | gear Z = 32                        |
| 3          | 2.0312.206.2    | 2   | screw m 8 p 1.25 x 20              |
| 4          | 2.1480.014.1    | 2   | washer 8                           |
| 5          | 0.065.1323.0/30 | 1   | gear Z = 29                        |
| 6          | 0.007.1177.3/10 |     | gear z = 57                        |
|            |                 |     | - WITH RED IDENTIFICATION STAMP    |
| 6          | 0.007.1178.3/10 |     | gear z = 57                        |
|            |                 |     | - WITH YELLOW IDENTIFICATION STAMP |
| 6          | 0.007.1179.3/10 |     | gear z = 57                        |
|            |                 |     | - WITH GREEN IDENTIFICATION STAMP  |
| 7          | 2.1559.185.0/10 | 1   | bushing                            |
| 8          | 0.065.1352.0    | 1   | shim                               |
| 9          | 2.1410.016.1    | 1   | circlip 40                         |
| 10         | 0.065.1354.0/20 | 1   | gear z=58                          |
| 11         | 0.065.1350.0    | 1   | small disc                         |
| 12         | 2.0132.207.2    | 4   | screw m 10 p.1 x 25                |
| 13         | 0.065.1330.0    | 8   | tappets                            |
| 14         | 2.1569.114.0/10 | 16  | gasket 14x18.5x8                   |
| 15         | 2.1599.437.0    | 8   | shoulder ring                      |
| 16         | 2.4019.300.1/10 | 8   | spring 18.5x52x2                   |
| 17         | 0.065.1332.0    | 8   | sleeve                             |
| 18         | 0.065.1331.2    | 8   | rod                                |
| 19         | 0.065.1353.0    | 1   | small plate                        |
| 20         | 0.065.1351.0    | 2   | shoulder ring                      |
| 21         | 2.1559.398.0    | 1   | bushing 10.5x13x12                 |

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#### H-478-4 -> 10500

Section: ENGINE Ref: 01.00.20

# CYLINDER HEAD

| Fig.       | P/n             | QTY | Name                               |
|------------|-----------------|-----|------------------------------------|
| Notes:     |                 |     |                                    |
| [H-478-4 - | > 10500]        |     |                                    |
|            | ,               |     |                                    |
| 1          | 2.0432.011.7    | 4   | stud bolt m 8 p.1.25 / p.1 x 40    |
| 2          | 2.0432.161.7    | 4   | stud bolt m 10 p.1.5 / p.1.25 x 40 |
| 4          | 0.010.6016.0    | 4   | inlet valve mm 43.63 / Ø mm 9      |
| 5          | 0.066.1421.0    | 4   | exhaust valve                      |
| 6          | 0.074.1423.0    | 16  | conical valve cotter               |
| 7          | 0.066.1425.0    | 8   | cup                                |
| 8          | 2.4019.287.0    | 8   | spring                             |
| 9          | 0.066.1443.0/10 | 16  | screw                              |
| 10         | 0.066.1432.3    | 8   | rocker arm                         |
| 11         | 2.1559.021.0/40 | 8   | bushing 15x19x22                   |
| 12         | 2.1599.432.0    | 2   | shoulder ring                      |
| 13         | 2.1410.055.1    | 2   | circlip 19                         |
| 14         | 2.0432.163.7    | 8   | stud bolt m 10 p.1.5 / p.1.25 x 45 |
| 15         | 2.1011.421.2    | 8   | nut m 10 p.1.25                    |
| 16         | 0.021.1434.0    | 8   | screw                              |
| 17         | 2.1011.405.2    | 8   | nut m 8 p.1                        |
| 18         | 0.007.1139.0/10 | 4   | small cap                          |
| 19         | 0.065.1450.0/30 | 1   | tappet gasket                      |
| 20         | 2.0399.130.2/10 | 4   | screw m 8x36x44                    |
| 21         | 2.1569.170.0/10 | 4   | gasket 8.2 x 14                    |
| 22         | 0.078.1451.0/40 |     | head gasket -A-                    |
| 22         | 0.078.1452.0/30 |     | head gasket -B-                    |
| 22         | 0.078.1453.0/40 |     | head gasket -C-                    |
| 24         | 2.0432.005.7    | 4   | stud bolt m 8 p.1.5 / p.1 x 25     |
| 25         | 0.012.2693.3/10 | 4   | engine head                        |
| 26         | 0.007.1779.0/10 | 8   | valve guide                        |
| 27         | 0.066.1427.0    | 4   | valve seat                         |
| 28         | 0.078.1426.0    | 4   | valve seat                         |
| 29         | 0.010.6041.0    | 4   | bush                               |
| 30         | 2.3170.012.1    | 8   | expansion plug 30                  |
| 31         | 0.066.1431.0    | 4   | pin                                |
| 32         | 0.066.1430.0/10 | 4   | support                            |
| 33         | 2.1530.051.0    | 4   | oil seal 20.22x3.53                |
| 34         | 2.1519.117.0    | 8   | special oil seal                   |

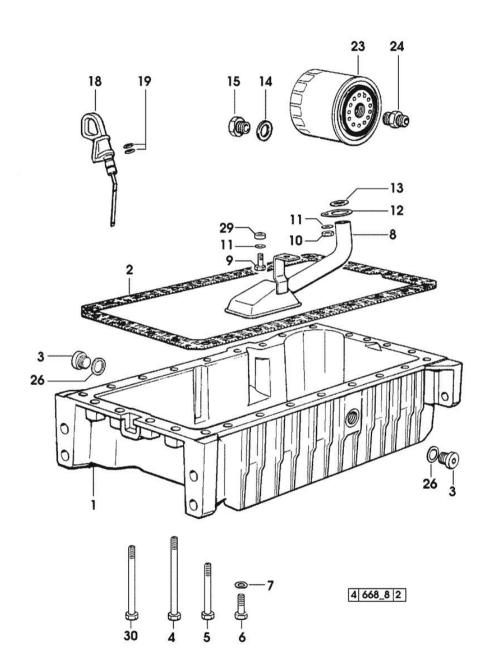
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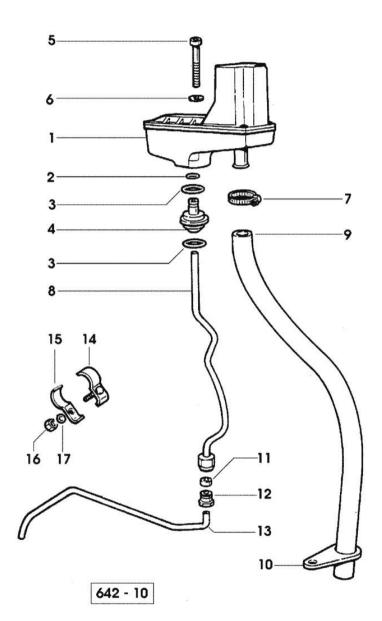
Section: ENGINE

Ref: 01.00.21

# LUBRICATION

| Fig.                  | P/n             | QTY | Name                           |
|-----------------------|-----------------|-----|--------------------------------|
| Notes:<br>[H-478-4 -> | 10500]          |     |                                |
| 1                     | 0.007.1277.0/40 | 1   | oil sump                       |
| 2                     | 0.065.1550.0/10 | 1   | gasket                         |
| 3                     | 2.3199.001.2    | 2   | plug 1/2" gas                  |
| 4                     | 2.0112.239.2    | 2   | screw m 8 p.1.25 x 150         |
| 5                     | 2.0112.226.2    | 4   | screw m 8 p.1.25 x 85          |
| 6                     | 2.0112.215.2    | 17  | screw m 8 p.1.25 x 40          |
| 7                     | 2.1470.004.2    | 26  | lock washer 8                  |
| 8                     | 0.065.1531.3/20 | 1   | tube                           |
| 9                     | 2.0112.209.2    | 1   | screw m 8 p 1.25 x 25          |
| 10                    | 2.1011.105.2    | 1   | nut m 8 p.1.25                 |
| 11                    | 2.1470.004.2    | 2   | lock washer 8                  |
| 12                    | 0.065.1538.0    | 1   | flange                         |
| 13                    | 2.1539.040.0    | 1   | special oil seal 21.82 x 3.53  |
| 14                    | 2.1560.014.0    | 1   | washer 18.2 x 24               |
| 15                    | 2.3339.353.2/20 | 1   | pipe fitting 12 p.1.5-18 p.1.5 |
| 18                    | 0.086.1513.2/30 | 1   | dipstick                       |
| 19                    | 2.1539.065.0    | 2   | special oil seal 8.73 x 1.78   |
| 23                    | 0.044.1567.0    | 1   | oil filter element             |
| 24                    | 2.3339.307.0    | 1   | pipe fitting m 22 p.1.5-3/4"   |
| 26                    | 2.1560.054.0    | 2   | gasket 21 x 26                 |
| 29                    | 2.1579.766.2    | 1   | spacer 8.5x16x10               |
| 30                    | 2.0112.235.2    | 3   | screw m 8 p.1.25 x 130         |





Section: ENGINE

LUBRICATION

Ref: 01.00.26

| LUDK                 | LUDRICATION     |     |   |  |
|----------------------|-----------------|-----|---|--|
| Fig.                 | P/n             | QTY | Name                                      |  |
| Notes:<br>[H-478-4 - | > 10500]        |     |   |  |
| 1                    | 0.066.1552.4/10 | 1   | sediment bowl \$\tilde{\sigma}\$ 01.00.32 |  |
| 2                    | 2.1539.074.0    | 1   | special oil seal 7.66 x 1.78              |  |
| 3                    | 2.1539.072.0    | 2   | special oil seal 23.52 x 1.78             |  |
| 4                    | 0.066.1558.0    | 1   | bush                                      |  |
| 5                    | 2.0312.221.2    | 2   | screw m 8 p.1.25x75                       |  |
| 6                    | 2.1480.014.1    | 2   | washer 8                                  |  |
| 7                    | 2.6859.073.2    | 1   | clamp                                     |  |
| 8                    | 0.066.1557.2    | 1   | tube                                      |  |
| 9                    | 0.066.1559.0    | 1   | tube                                      |  |
| 10                   | 0.075.1151.0    | 1   | bracket                                   |  |
| 11                   | 2.3350.003.1    | 1   | nosepiece 8                               |  |
| 12                   | 2.3339.418.1    | 1   | pipe fitting m 12 p.1                     |  |
| 13                   | 0.066.1556.0    | 1   | tube                                      |  |
| 14                   | 0.075.1552.2    | 1   | bracket                                   |  |
| 15                   | 0.075.1552.0    | 1   | bracket                                   |  |
| 16                   | 2.1011.103.2    | 1   | nut m 6 p.1                               |  |
| 17                   | 2.1470.002.2    | 1   | lock washer 6                             |  |
|                      |                 |     |   |  |

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