| Effects | S | C | Failure mode | Cause | Preventive action | O | Detection action | D | RPN | R/D |
|---|---|---|---|---|---|---|---|---|---|---|

**GETRAG S.p.A.**

# POWER:SHIFT

**FMEA**

Process

Number:

Page:

Type/Model/Fabrication/Lot:
250 FORD C-346 E/A 1.6L - 2.0L Housings

Item code:
2500353220 - 2500354800

Revision state:
3

FMEA/system element:
Summary (KG)

Item code:

Revision state:

| Effects | S | C | Failure mode | Cause | Preventive action |
|---|---|---|---|---|---|

System element: ☒ Automatic load / unload (GG/KG)

Function: ☒ ⚙ Fetsomat loading operation (GG/KG)

☒ ⚠ Assembly area nicks ... ☒ ⚠ Housing damaged

Agg da noi

> ☒ ⚠ Scrap to assembly leak test ... 5

Agg da noi

> ☒ ⚠ intermittent assembling process ... 6 ... ☒ ⚠ The piece fall down

>> ☒ ☒ (64F) customer unsatisfied ... 6 ... ☒ ⚠ The piece fall down cause clamping system badly ... ☒ Initia

> ☒ ⚠ Assembly scrap ... 6

Agg da noi

> ☒ ⚠ intermittent assembling process ... 6 ... ☒ Speci

>> ☒ ☒ (64F) customer unsatisfied ... 6 ... ☒ Previ

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**Modulo FMEA: Summary (KG)**

Nome | Attributi impostati dall'utente | Annotazione | Informazioni | Assistente | Predefinito

Categorie:

System:

Annotazione (English):

| Nomale | ▼ |

02/04/12 Update Index (a) new drawing 250353220 CR 250/4995, no changes needed.

20/04/12 - 22.03.2011, 8-D-... and ... 100000016337:
Boss R... 2 not property machined on clutch housing 25003532

Transmission variant:
25 0005 887-006 = 6V6P-7000-CG
Serial number: 0000089051
Production date: 22 Feb 2012

30/04/12 3532 Update Index (a) CR 35540 Ø K2 11.2 +/- 0.025 was 11.7 +/- 0.2, Rz symbol 'z'.
No changes needed.

26/07/12 3548 Update Index (a) CR 250/5292 CAD-Datest from 2012-07-20 was 2011-11-03, no change needed.

13/11/12 3532 Update Index (b) CR 35808 , Add group number note, no changes needed.

13/11/12 3548 Update Index (b) CR 35813, Add group number note, no changes needed.

04/12/13 3532 Update Index (c) CR 250/5265 CAD-Datest from 2012-07-16 was 2012-03-06, no changes needed.

11/12/13 3548 Update Index (c) CR 35844 CAD-Datest from 2013-12-06 was 2012-07-20, no changes needed.

08/08/14 3532 Update Index (d) CR 35888  CAD-Datest from 2014-08-08 was 2012-07-16, no changes needed.

08/08/14 3548 Update Index (d) CR 35890  CAD-Datest from 2014-08-08 was 2013-12-06, no changes needed.

Jan 2015, T-Report 72270 3532 and 3548 index (e) OD Ø Chamfer added <M> characteristic.

# GETRAG
GETRAG S.p.A.
## POWERSHIFT

**FMEA**
Process

| Type/Model/Fabrication/Load: 250 FORD C-346 E/A 1.6L – 2.0L Housings | Item Code: 2500353220 - 2500354800 | Responsible: B/GPS3 |
|---|---|---|
| | Revision State: 3 | Company: Getrag |

| FMEA/System Element: Summary (KG) | Item Code: | Responsible: GPS3 Housings Team / P.Lucchese (WLQ) |
|---|---|---|
| | Revision State: | Company: Getrag S.p.A. |

**System Element:** Automatic load / unload (GG/KG)

**Function:** Felsomat loading operation (GG/KG)

| Effects | S | C | Failure Mode | S | C | Causes | O | Preventive Action | Detection Action |
|---|---|---|---|---|---|---|---|---|---|
| Assembly area nicks | | | Housing damaged | | | The piece fall down | | Initial State: 01/03/2011 | |
| Agg da noi | | | | | | | | | |
| > Scrap to assembly leak test | 5 | | | | | | | Specific work istructions | 3 | Control frequence in according to plan and/or SPC |
| Agg da noi | | | | | | | | | |
| > intermittent assembling process | 6 | | | | | | | Internal 100% leak test | |
| >> (64F) customer unsatisfied | 6 | | | | | | The piece fall down cause clamping system anomaly | | Initial State: 01/03/2011 | |
| > Assembly scrap | | | | | | | | Specific work istructions | 3 | Allarmi macchina |
| Agg da noi | | | | | | | | | |
| > intermittent assembling process | 6 | | | | | | | Preventive maintenance plan | |
| >> (64F) customer unsatisfied | 6 | | | | | | | | |
| Structural area niks | | | | | | | | | |

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**Modulo FMEA Summary (KG)**

Nome: | Attributi impostati dall'utente | Annotazione | Info | Assistente

Sistema [...]

Categorie:

**Annotazione (English):**

02/04/12 Update Index (-) new drawing 250353220 CR 250/4995, no changes needed.

20/04/12 - 23.03.2012 8-D-Report-No 100000016337:

Boss RR 2 not properly machined on clutch housing 25003532

Transmission variant:

2500005337-006 / BV6P-7000-CG

Serial number. # 0000089051

Production date: 22 Feb 2012

24/04/12 3532 Update Index (a) CR 35540 Ø K2 11.2 +/- 0.025 was 11.7 +/- 0.2, Rz symbol 'z'. No changes needed.

26/07/12 3548 Update Index (a) CR 250/5292 CAD-Datest from 2012-07-20 was 2011-11-03, no change needed.

13/11/12 3532 Update Index (b) CR 35808 . Add group number note, no changes needed.

13/11/12 3548 Update Index (b) CR 35813, Add group number note, no changes needed.

04/12/13 3532 Update Index (c) CR 250/5265 CAD-Datest from 2012-07-16 was 2012-03-06, no changes needed.

11/12/13 3548 Update Index (c) CR 35844 CAD-Datest from 2013-12-06 was 2012-07-20, no changes needed.

08/08/14 3532 Update Index (d) CR 35888 CAD-Datest from 2014-08-08 was 2012-07-16, no changes needed.

08/08/14 3548 Update Index (d) CR 35890 CAD-Datest from 2014-08-08 was 2013-12-06, no changes needed.

| Type/Model/Fabrication/Load:<br>250 FORD C-346 E/A 1.6L - 2.0L Housings | Item Code:<br>2500353201 - 2500354800<br><br>Revision State:<br>3 | Responsible:<br>B/GPS1<br>Company:<br>Getrag | Created: | 01/03/11 |
| FMEA/System Element:<br>Summary (KG) | Item Code:<br><br>Revision State: | Responsible:<br>GPS1 Housings Team /<br>P.Lucchese (WLQ)<br>Company:<br>Getrag S.p.A. | Created:<br>Modified: | 01/03/11<br>21/02/12 |

| Effects | S | C | Failure Mode | Causes | Preventive Action | O | Detection Action | D | RPN | R/D |
|---|---|---|---|---|---|---|---|---|---|---|
| **System Element: ▣ Automatic load / unload (GG/KG)** | | | | | | | | | | |
| **Function: ▨ Felsomat loading operation (GG/KG)** | | | | | | | | | | |
| ▨ Assembly area nicks | | | ■ Housing damaged | ▨ The piece fall down | ▨ Initial State: 01/03/11 | | | | | |
| > ▨ Scrap to assembly leak test | 5 | | | | ▨ Specific work Istructions | 3 | ▨ Control frequence in according to plan and/or SPC | 5 | 120 | |
| > ▨ Intermittent assembling process | 6 | | | | | | ▨ Internal 100% leak test | | | |
| >> ▨ (64F) customer unsatisfied | 6 | | | ▨ The piece fall down cause clamping system anomaly | ▨ Initial State: 01/03/11 | | | | | |
| > ▨ Assembly scrap | | | | | ▨ Specific work Istructions | 3 | ▨ Allarmi macchina | 3 | 72 | |
| > ▨ intermittent assembling process | 6 | | | | ▨ Preventive maintenance plan | | | | | |
| >> ▨ (64F) customer unsatisfied | 6 | | | | | | | | | |
| ▨ Structural area niks | | | | | | | | | | |
| > ▨ break housing | 8 | | | | | | | | | |
| >> ■ (1F) (R15) No Rolling Launch possible (Start Up) | 8 | | | | | | | | | |
| >> ▨ (7.1 F) / (R18) No creep, loss of transmission of engine torque | 8 | | | | | | | | | |
| >> ■ (4F) ( R21) No Change of Drive Direction possible/ Vehicle inability | 8 | | | | | | | | | |
| >> ■ (73F) coefficient of Friction (Clutch) reduction/ Shift Quality Impact/ Loss of Torque in worst case | 8 | | | | | | | | | |
| >> ▨ (10F) (R26) Unexpected Deceleration | 8 | | | | | | | | | |
| >> ■ (75F) (R2) loss of Lubrication Function//Transmission damage | 8 | | | | | | | | | |
| >> ■ (74.1F) (R26) Damage of bearings and shafts/ Transmission damage | 8 | | | | | | | | | |
| >> ▨ (75.1F) (R2) Oil leak itself with no transmission damage (?) | 6 | | | | | | | | | |
| > ▨ (28.6F) (R37) Boom Noise | 5 | | | | | | | | | |
| >> ■ (54F) (R37) High Level of unpleasant Noise/ Vehicle Vibration felt through the drivers seat | 6 | | | | | | | | | |
| >> ▨ (12F) (R38) Degraded shift quality | 5 | | | | | | | | | |