

# ***DOOR LOCKS***

Nitrotec has been used on existing lock design as a straight substitution for zinc electroplate with a dichromate passivation. The original production route for this part was:-

*Fabricate - Plunge holes - Zinc plate - Tap Screw Threads*

This production route had been optimised after several years of manufacture to overcome the problem of zinc build up which was creating erratic dimensions within the thread.

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## ***DOOR LOCKS (cont)***

With the introduction of the Nitrotec process, the production route was revised to the following:

**Fabricate - Plunge holes and tap threads - Nitrotec**

Obviously, the change in the production route by not having to re-jig the parts to tap the holes resulted in substantial cost savings. Although the cost of the Nitrotec process and rack zinc plating were comparable, there was overall savings due to a more efficient production route.

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## ***DOOR LOCKS (cont)***

Furthermore, the associated quality problem of zinc corrosion in service which was causing jamming of the mechanism, was eliminated.

The experience gained from this project enabled the Nitrotec process to be considered at the design stage. The nitrogen strengthening characteristics enabled Cover Plates to be manufactured from 2 mm thick material instead of 3mm, resulting in a 33% weight saving. Illustrated is a small car manual lock together with a complete electric door lock for a status passenger vehicle.



# **ELECTRIC DOOR LOCK** **MECHANISM**

Material:- Plain low carbon Aluminium stabilised steel.

Following previous designs this lock makes even greater use of the Nitrotec strengthening process, allowing section sizes to be reduced to as low as 1.6 mm thick material.

