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| **Product Decomposition** | | |
| **Design Organization: Example for The Mechanical Design Process** | | **Date: Aug 14 2007** |
| **Product Decomposed:: Irwin Quick Grip – pre 2007** | | |
| **Description** This is the Quick-Grip Product that has been on the market for many years | | |
| **How it works:** Squeeze the pistol grip repeatedly to move the jaws closer together and increase the clamping force. Squeeze the release trigger to release the clamping force. The foot (the part on the left in the picture that holds the face that is clamped against) is reversible so the clamping force can be made to push apart rather than squeeze together. | | |
| **Parts:**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Part # | Part Name | # Req’d | Material | Mfg Process | Image | | 1 | Main body | 1 | PPO or PVC | Injection molded |  | | 2 | Trigger | 1 | PVC | Injection molded |  | | 3 | Bar | 1 | Steel | Cold rolled |  | | 4 | Face plate, left | 1 | polyethylene | Injection molded |  | | 5 | Face Plate, right (burned as part of ID process) | 1 | polyethylene | Injection molded |  | | 6 | Tail stock | 1 | PVC | Injection molded |  | | 7 | Lock | 1 |  | Injection molded |  | | 8 | Pad | 2 |  | Injection molded |  | | 9 | Roll pin | 1 | Steel | Rolled Sheet |  | | 10 | Knurled pin | 1 | Steel | Cold rolled |  | | 11 | Release trigger spring | 2 | Steel | Wound wire |  | | 12 | Release trigger | 1 | Steel | Stamped sheet |  | | 13 | Power spring | 1 | Steel | Wound wire |  | | 14 | Jam plates | 2 | Steel | Stamped Sheet |  | | 15 | Label | 1 | PVF | Cut sheet |  | | 16 | Split pins | 2 | Steel | Rolled sheet |  | |  |  |  |  |  |  | | | |
| **Disassembly:**   |  |  |  |  | | --- | --- | --- | --- | | Step # | Procedure | Part #s removed | Image | | 1 | Take off Left Face Plate | 4 |  | | 2 | Take off right Face Plate and label | 5, 15 |  | | 3 | Remove Tail Stock assembly | 6,7,8,9,10 |  | | 4 | Remove one of the split pins | 16 |  | | 5 | Remove Main Body assembly | 1,2,8,11,12,13,14 |  | | 6 | Press out Roll Pin from Tail Stock assembly | 9 |  | | 7 | Press out Knurled Pin from Tail Stock assembly | 10 | | 8 | Pry off Lock from Tail Stock assembly | 7 | | 9 | Pry off Pad from Tail Stock assembly | 8 | | 10 | Remove Release Trigger from Main Body Assembly | 12 |  | | 11 | Remove Trigger Springs from Main Body Assembly | 11 | | 12 | Remove Jam Plates and Power Spring from Main Body Assembly | 13,14 |  | | 13 | Remove Trigger from Main Body Assembly | 2 | | 14 | Pry off Pad from Main Body assembly | 8 | |  |  |  |  | |  |  |  |  | |  |  |  |  | | | |
| **Links and drawing files:** | | |
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