



Aerospace Sensing & Controls

Chip Collectors

Eaton Tedeco® brand Chip Collectors are the most basic method of detecting wear in lubrication systems. They consist of a magnetic probe and a self-closing valve that allows their removal from a gearbox without draining the oil. The chip collectors are strategically placed in well-designed areas of individual scavenge lines, gearboxes, or other locations to optimize capture efficiency.

The Tedeco® brand Chip Collectors capture ferrous particles that may originate during the building process, from repair work, or from normal wear. These devices are most effective for a particle size range of 50 to 1000 microns. Because chip collectors can only capture debris, the plugs must be removed and sent away for analysis at frequent intervals to determine which part of the life cycle the gears and bearings are experiencing. The removed debris is cataloged and plotted according to the running time of the plane in an off-site facility. The resulting graph is useful for establishing a basis for failure detection logic. Military applications will call for this inspection every 25 to 50 hours. Commercial inspections are performed at approximately 300 hours, depending on maintenance experience with a particular engine or other system.

The chip collector features the patented quick-disconnect Helilok® mechanism. A simple pushing motion, which the helical cam converts into rotation, unlocks the plug. A spring pushes it out, simultaneously closing a valve to keep oil loss to a minimum. This

same mechanism assures positive locking when the plug is returned since the helical locking cams have only one stable position: when they are locked. To lock the unit in place, push against the spring pressure cap and allow the cams to guide the plug into the locking detents. Lockwiring is not required.

Forced-flow lubrication systems permit full-flow chip collection with a chip collector/screen combination. Since all of the oil passes through the screen, wear particles larger than the screen openings are retained and captured. These units can eliminate the need for a separate pump inlet screen.



Features:

- Designed for optimum capture efficiency in each location
- Helilok® quick-disconnect and positive locking mechanism. Lockwiring not required.
- Scalloped hand grip permits a secure hold on plug, even with arctic gloves or oily hands.
- Optional drain and sampling attachments
- Operating conditions: All mineral and synthetic oils; -65° F to +425° F; 200 PSI (plug inserted), 20 PSI (plug removed)
- Materials: Aluminum alloys, stainless steel, seals compatible with operating fluids.

Applications:

- Most major commercial aircraft turbine engines, including CF6-80, PW4000, RB-211, Military fighters, including F-16, F/A-22, F-35
- General and regional aircraft, including Gulfstream IV & V, Bombardier Global Express
- Military tanks and armored vehicles, including Abrams M1A1/M1A2

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