

Maintenance Tips Pemasangan dan Inspeksi Hydraulic Hose

Beberapa waktu lalu terdapat temuan *surveillance* terkait dengan kondisi *hydraulic hose* pada pesawat A330 CEO dimana *hose* tersebut dalam posisi menempel (*no distance*) dengan *case drain filter* sehingga terjadi *defect*. Hal ini berpotensi terjadi nya *hydraulic problem/leakage* pada pesawat. Sebagai *reminder* bahwa *problem* tersebut menjadi *highlight* selama operasional diperiode tahun 2018-2019.

Panduan *minimum distance* saat proses instalasi *hydraulic hose* pada pesawat A330 telah dijelaskan secara detail pada AMM Task 20-23-14-910-801-A *Protection of Hydraulic Lines from Vibration and Chafing*, sebagai berikut:

4. Procedure

Subtask 20-23-14-910-052-A

A. Minimum Distances Necessary to Prevent Chafing of Hydraulic Rigid Pipes/Flexible Hoses (Ref. Fig. Minimum Distances)

NOTE: Definition of rigid pipe/flexible hose routings: Rigid pipe/flexible hose routings are a set of rigid pipes/flexible hoses which are parallel and part of the same system. For hydraulic rigid pipes, they also have the same system color code. Usually the pipes in different routing are not parallel (example: crossing) or they can be from different hydraulic systems (different color code).

(1) Rigid pipes and flexible hoses must not touch other rigid pipes/flexible hoses or adjacent components.

NOTE: It is permitted for hydraulic flexible hoses that have blue textile anti-abrasion sheaths to touch each other.

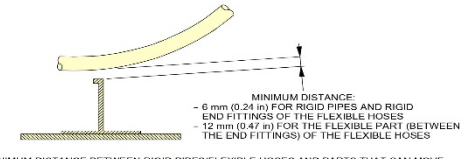
(2) The standard minimum distances that you must obey for rigid pipe/flexible hose routings are specified in this document.

- If you cannot get the standard minimum distance, refer to the maintenance procedure or the installation drawing of the equipment to know if a specified minimum distance is applicable. It is necessary to obey this specified minimum distance.

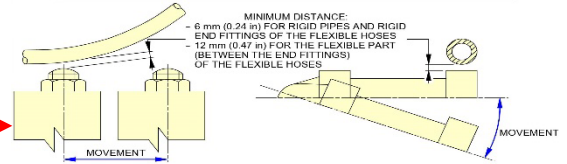
(3) To know the minimum distance between a rigid pipe/flexible hose and a part that can move:

- Measure the distance in the condition where the movement decreases the distance to its smallest value.

MINIMUM DISTANCE BETWEEN RIGID PIPES/FLEXIBLE HOSES AND STRUCTURE



MINIMUM DISTANCE BETWEEN RIGID PIPES/FLEXIBLE HOSES AND PARTS THAT CAN MOVE



MINIMUM DISTANCE BETWEEN RIGID PIPES/FLEXIBLE HOSES



ITEM	A MIN mm (in)
BETWEEN RIGID PIPES IN THE SAME ROUTING	2.5 (0.1)
BETWEEN RIGID PIPES IN DIFFERENT ROUTINGS	6 (0.24)
BETWEEN TWO FLEXIBLE HOSES	12 (0.47)
BETWEEN A FLEXIBLE HOSE AND A RIGID PIPE	12 (0.47)

Gambar 1. Panduan Minimum Distance Pada Proses Instalasi Hydraulic Hose

Panduan *Permitted Damage and Defects on Hydraulic Hoses* saat proses inspeksi pada pesawat A330 telah dijelaskan pada A330 AMM Task 20-23-11-200-802-A sebagai berikut:

- 2 Visually examine the hose, conduits and fittings to identify chafing marks on the hose surface, cuts or kinking or other types of damage.]
- a Replace the flexible hose if:
- There is a surface defect with signs of dents, kinks or deformation,
 - Two or more wires in one plait or a number of wires are broken in one small area,
 - The metal braid hose had wear or chafing on the metal braid that is more than the maximum permitted wear damage (see formula),
 - The hose has a fire sleeve protection (brown neoprene overlay-protection) and there is wear or chafing on the fire sleeve protection,
 - The hose has a chafe guard protection (blue color) and the wear or chafing on the metal braid is more than the maximum permitted wear damage (see formula).

Gambar 2. Panduan Inspeksi Hydraulic Hose Pesawat A330

Lesson Learn:

Untuk menghindari kejadian serupa, berikut beberapa tips yang perlu diperhatikan

1. Pastikan *Hydraulic Hose* Tidak Bersentuhan dengan *Structure/Parts/Rigid Pipes* atau *Hose* lain nya.

Secara *general minimum distance* adalah 6 mm (0.24 in) untuk *rigid pipes* dan 12 mm (0.47 in) untuk *flexible part*. *Detail minimum distance* tiap kondisi telah dijelaskan di A330 AMM Task 20-23-14-910-801-A *Protection of Hydraulic Lines from Vibration and Chafing*

2. *Aware* atas Kondisi *Hydraulic Hose*

Cek kondisi *hydraulic hose* dengan memastikan tips nomor 1 dan 2 terlaksana. Gunakan A330 AMM Task 20-23-11-200-802-A *Permitted Damage and Defects on Hydraulic Hoses*.

"Mari tingkatkan kepatuhan bersama untuk selalu mematuhi prosedur manual yang berlaku guna mencegah terjadinya incident atau accident."



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