Bulletin

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AMSA PSC Information

---How to Inspect

Engine Room Ventilation Fan Trunking Closing Appliance

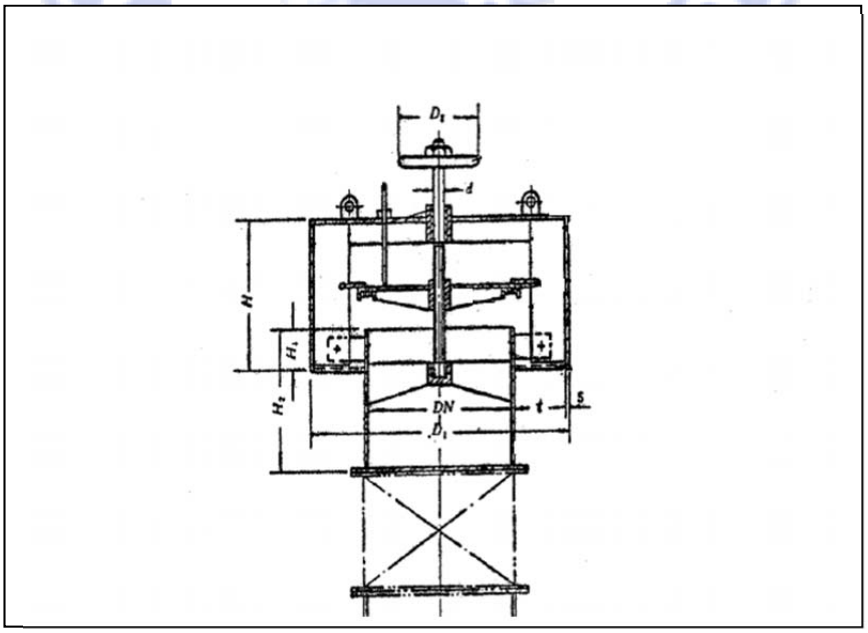
As per latest <Port State Control Annual Report> on AMSA website, fire safety related deficiency ranked second place just after ISM deficiency, among which Engine Room ventilation fan fire damper and Engine Room Funnel fire damper were always detected detainable deficiencies during AMSA PSC inspection.

This issue will present and assist crew staff on how to inspect Engine Room (E/R) ventilation fan fire damper.

Following types of E/R ventilation fan fire damper were always found fitted on board vessels calling Australia.

1、 Locally controlled close to E/R ventilation fan fire damper

Whenever fire occurred in E/R, fire damper can be screwed down by turning hand wheel, as indication of follow picture:



For easy and immediate access to operation of hand wheel located at the top of ventilation mushroom cover, a vertical ladder normally fitted between the trunking supporting deck and top of mushroom cover, indicated as following picture:

Frequently Found Deficiencies

- No frequent lubricating oil squeezed into grease case, which penetrating the center of top plate of mushroom cover and lower supporting bearing in ventilation trunking, even oil nipple defective, which resulted in hand wheel seizing and weather-tight cover located under mushroom cover failing to be screwed down to top of ventilation trunking quickly.
- Sealing rubber on bottom side of weather-tight cover located under mushroom cover missing or defective.
- Weather-tight cover located under mushroom cover deformed and/or rusted seriously, failing to be completely closed on 360° acre around the top of ventilation trunking.
- Mouse/pest proof net broken.
- Vertical ladder rusted seriously.

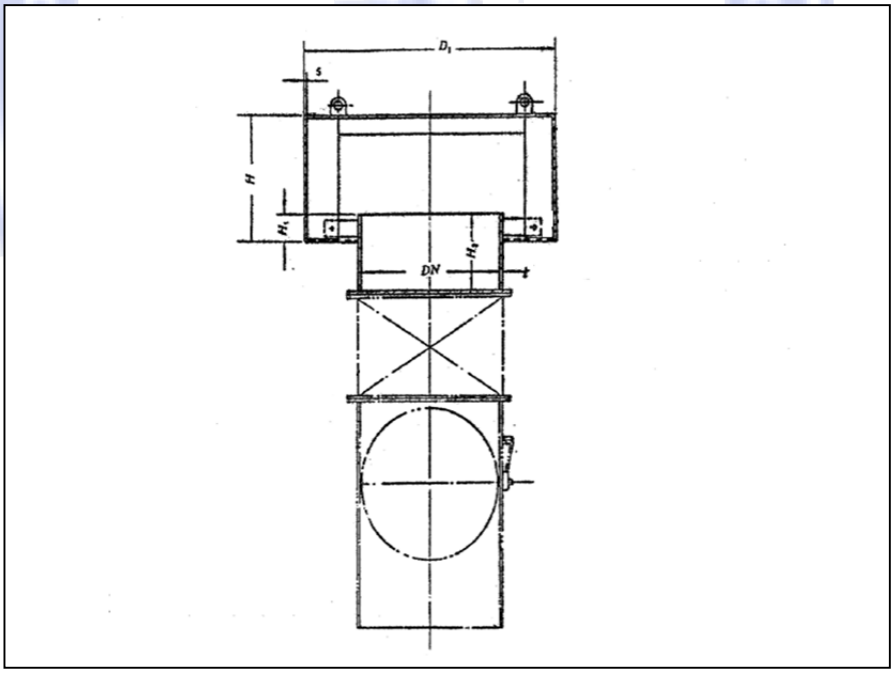
- Mushroom cover and ventilation trunking rusted seriously, even holed.
- Ventilation trunking supporting bracket damaged.
- On open/close signs in vicinity of hand wheel fading or missing. Weather-tight cover up-down position indicating bar defective, which was normally colored in RED

2、Remotely controlled close to E/R ventilation fan fire damper

More and more remotely controlled close to E/R ventilation fan firm damper was introduced to modernization on board the vessel. **Nevertheless , Defective & Failing Operation Risk were getting so high.**

Some locally controlled close function was still included in these type of remote controlled fire damper, in such situations, remote and local controlled close function MUST be kept in good working condition, unless exempted and approved by Class or Flag in writing.

Below picture displaying easy reference:



Most vessels utilized compressed air as medium to remotely controlled close to fire damper. As an example indicated in below picture, under the compressed air, the pneumatic actuator piston rod moved away from its original position which was expected to hold the fire damper in open status through attached connecting rod, and then the

weight made the connecting rod turn anticlockwise to push the round fire damper in ventilation trunk to close status.

Frequently Found Deficiencies (no repeated for the same deficiencies mentioned in section 1)

- O-ring in pneumatic actuator defective caused the piston rod no any or requisite travel, failing to release the weight of connecting rod, resulting that round fire damper not closed immediately.
- Compressed air found leaking at fire control station, pressure pipeline, and/or connection to pneumatic actuator, no requisite piston rod travel available.
- No required maintenance and lubricating oil to the round fire damper axle bearing, made fire damper not open and closed freely.
- The fire damper attached connecting rod fixing angle to the fire damper itself not in correct position, which resulted fire damper not turned to the expected close position when the weight falling down.
- The round fire damper in ventilation trunking rusted serious, even holed, under effect of high temperature and high speed of air in the trunking, which made fire damper defective.

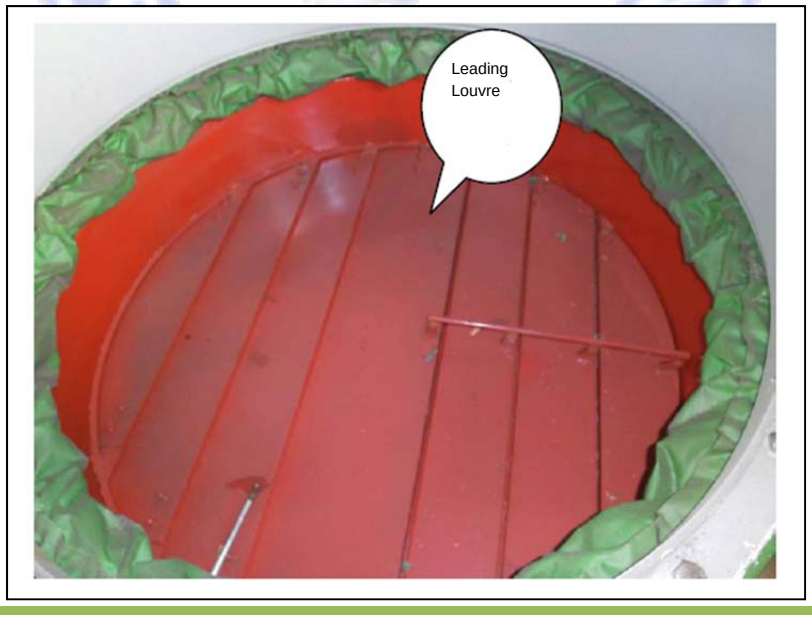
- The drive shaft to fire damper axle end sheared and failed, which will be very hard for crew staff to detect this deficiency during its routine work and will seriously impact expectation of fire damper remotely controlled close.
- When locally controlled close function included, to ensure all the locally controlled related function kept good operational.

Special Reminder: It was strongly recommended that crew staff, through inspection hole in the ventilation trunking coaming, made thorough examination to and ensure round damper inside of the ventilation trunking kept in good technical and operational condition. Where no inspection hole fitted in the ventilation trunking coaming, duty crew had to enter into ventilation trunking through manhole normally located somewhere underdeck in the surface of ventilation trunking.

Recommended Testing Way: When ventilation fan operated with intake direction, a A4 paper or one piece of glove can be held on the bottom surface of mouse/pest proof net. After close of fire damper, the A4 paper or glove will fall down. Otherwise, some abnormal maybe occurred to fire damper inside the ventilation trunking.

3. Remote controlled close fire damper made of Louvres

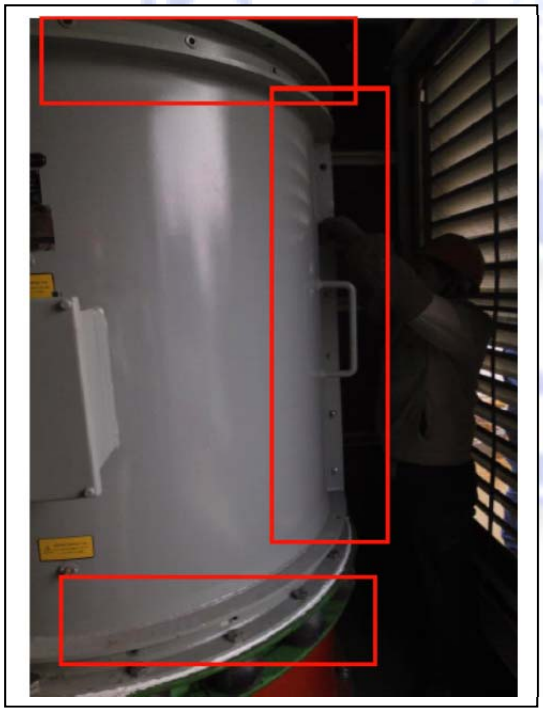
With development of automation on board, some fire damper was designed made of louvres for large sized vessel, as indicated in below picture showing the close status:



Following picture demonstrating fire damper in open status:

Normally, this type of fire damper was designed made of 5-7 louvres, among which middle louvre operated as leading louvre and the others as following louvres, all the louvres connected with each other via linkage bar. Each louvre turned around its axle end bearing fitted to the ventilation trunking coaming.

General view picture as follows:



In good order for crew staff to do routine inspection and maintenance to inside fire

damper, all the bolts MUST be removed away from all surroundings of trunking to directly access to fire damper louvres and linkage.

For good sake of inspection, it was strongly recommended to install an inspection hole on the trunking coaming, attached with an easily removed cover no any impacting its original fire integrity. Reference to below picture.

Through a newly installed inspection hole, duty crew can easily and will be happy to do inspection and maintenance to fire damper inside of trunking as demonstrated in below picture:

Frequently Found Deficiencies (no repeating for the same deficiencies mentioned in section 1)

- Louvre seized.
- Linkage between louvres disconnected and even missing. Causing the Following Louvres inoperative.
- Operation of damper louvres proved further adjustment to ensure positive closure.
- The pneumatic actuator drive shaft to the damper axle sheared and failed for reason of shortage timely maintenance to all the louvres and its supporting bearing, which will be very difficult to detect this deficiency before its sheared.
- The drive shaft was rectangular section fitted to spline socket.

CCS Australian Office

January 30th, 2015

Announcement:

1. Intention is to assist and ensure owners to understand and well prepared, ensuring all updated requirements from AMSA can be met
2. For more information, please visit AMSA website at www.amsa.gov.au and CCS website at www.ccs.org.cn
3. The information contained does not and cannot supersede any AMSA or related governing parties requirements as well as CCS class rules and regulations.