GENTLE SHOT PEENING OF ANGULAR SURFACES

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ABSTRACT

This device is destined to avoid difficulties with normal Shot Peening. This apparatus has two steel fabricated rolls: one is vertical and other horizontal in front of them are jets for normal Shot Peening. This way is combination of normal Shot Peening and impacting by rolling of two steel roller under angle 90°. This way - impacting – rolling and Shot peening by two jets serving to get better reinforced treated surfaces. Whole mechanism is driven by one small electric motors by axles and gears and available housing: all fixed and making as one compact machine very easy and transferable by hands in scientific research laboratory or workshop. System suction of dust and lubrication is provided for correct function.

KEY WORDS

Gears, bearings, axle, conical transfer, housing electric motor, horizontal and vertical rolls, lubrication, suction, dust, flexible pipe, impacting rolling reinforcement of surfaces, bearing.

Angular surfaces is very difficult precis treatment by Shot peening. Access way is big problem because to be together in function. I mean one jet for one area and second for vertical.

In some industries is necessary to have exact treated vertical horizontal surfaces.

On the fig 1 we see two fabricated rolls exactly installed that covering horizontal and vertical surfaces. In front of each roll is fixed jets for Shot peening and rolls behind going and repairing some gappiness of metallic surface after normal Shot peening. Here also we have two operation: the Shot peening by normal shot media following with rolling or we can say here impacting. On this way we can get better performed all operation called Gentle Shot Peening. Rolling serving for better following and eventual correcting of metallic angular surfaces.

On the figure 1 are presented all items necessary to make this operation. Both rolls connected and driven by electric motor item 8 with three gears. All these items installed and fixed in one metallic box ready and easy transferable by hands for necessity replacement in workshop. On the fig 2 is possible to see treatment of surface with rolling – impacting angular
surface in same time. Electric motor may be with thyristors. On the Fig 3 is presented this operation Shot peening and impacting.

CONCLUSION:

For perfect operations without obstacles and other problem manufacturer must assure system suction of dust and adequate lubrication. Before commencement of such operation whole area to be cleaned and removed dirties.

Fig. 1. Angular surface treatment
LIST OF INDICATED ITEMS ON THE SKETCHES

1 DRIVING GEAR
2 GEAR
3 GEAR ASSEMBLY
4 DRIVING GEAR
5 HORIZONTAL ROLL (FOR IMPACTING)
6 VERTICAL ROLL FOR IMPACTING
7 ANGULAR ITEM FOR SHOT PEENING TREATMENT
8 ELECTRIC MOTOR WITH THYRISTORS
9 MAIN SHAFT
10 JET FOR BLASTING MEDIA
11 JET FOR BLASTING MEDIA
12 AUXILIARY SHAFT
13 BEARING

Fig. 2. Angular surface treatment
Fig. 3. Angular surfaces treatment shot peening and roll impacting