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Development of Computer Aided Backup System for Bridge Manufacturing

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Synopsis :
Kawaden Co., Ltd. has developed an automatic mold lofting, an indispensable process for steel bridge manufacturing, and consequently a computer aided backup system for bridge manufacturing works has been established, which enables the works a continuous operation from design stage to mold lofting process. The know-how which is peculiar to our works, such as bridge fabrication procedure and shrinkage of steel material at welding, has been taken into consideration in the system. The characteristics of this system are as follows: (1) Special shaped end section of the girder which is frequently dealt with is covered. (2) Mutual interference of bridge members can be automatically detected. (3) Output form of mold lofting documents can be easily arranged in accordance with the requests of

for Bridge Manufacturing*

Synopsis:

Recently Kawaden developed a bridge manufacture

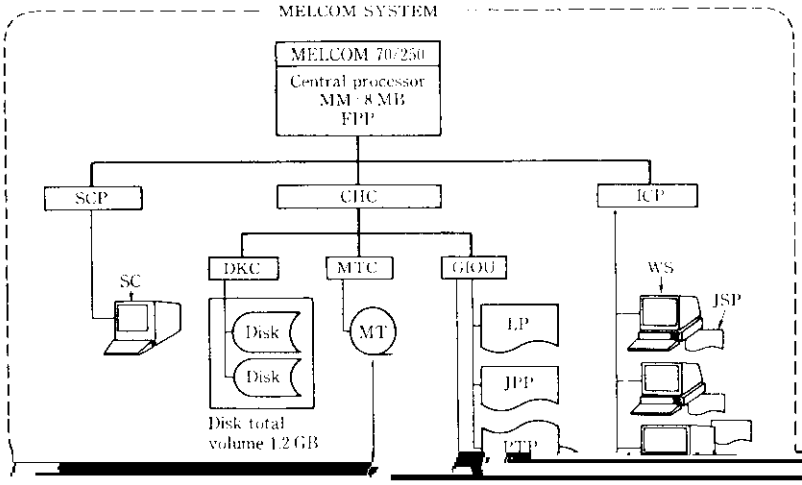
modules. Through this process, even re-calculations

bridges, which are manufactured with comparative frequency, incorporating its own manufacturing informa-

minimum time by selecting an appropriate program.

interference between members. In this report describes

3. Outline of Bridge Manufacture Backup System


MELCOM SYSTEM
MELCOM 70/250
Central processor
MM : 8 MB
FPP
SCP
CHC
ICP
SC
DKC
MTC
GIOU
WS
JSP
Disk
Disk
MT
LP
JPP
PTP
Disk total
volume 1.2 GB

made up in identical shapes on the basis of the function of the members and working shape information. In addition, members having the same composition and

trarily designated, while in the automatic drafter output, the scale to be used for drafting and the pen or cutter

Input/output contents and operations are shown in

mized, minimizing the probability of human error in judgement. A few concrete examples are shown below

ed according to customers' specifications. The present system has made it possible to process the four typical

shape types shown in **Fig. 5**. Integrated processing is

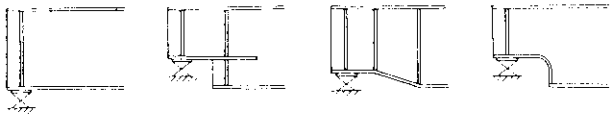
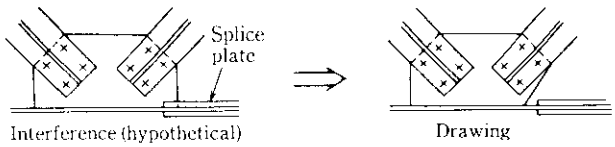


Fig. 5 Girder end section which can be covered by



design

Table 1 Man-hour-per-ton comparison as to mold

lofting for K Bridge between this system and others

Mold lofting on the floor	Calculation Service Center*1	This system

the sway-bracing gusset plate, so as to avoid interference with the horizontal stiffener.

(5) When interference of the horizontal bracing gusset plate with the main-girder splice plate occurs, the shape of the former can be automatically changed to

(6) The number of mold lofting man-hours with the