

FUNDAMENTAL MANUFACTURING PROCESSES

Sheet Metal Stamping Presses - SP

SCENE 1.

FMP RVW, CGS: Review
white text, centered on background
FMP BKG, motion background

SCENE 2.

, **SME2694**, 02:22:18:00-02:22:34:00
forming operation with little scrap

NARRATION (VO) :

METAL FORMING OPERATIONS SHAPE PARTS BY
THE IMPACT OF TOOLING ON SHEET METAL
STOCK AT A RELATIVELY HIGH RATE OF SPEED
WITH MINIMAL OPERATOR INTERVENTION.

SCENE 3.

, **SME2693**, 01:12:14:00-01:12:23:00
press operating
, **SME2693**, 01:23:03:00-01:23:16:00
c.u. die impacted

NARRATION (VO) :

THE PURPOSE OF THE PRESS IS TO PROVIDE
THE MOTIVE FORCE FOR THE STAMPING
OPERATION. THE DESIGN OF THE FINISHED
STAMPING IS DETERMINED BY THE SHAPE OF
TOOLING WITHIN THE DIE.

SCENE 4.

SP014A, **SME4423**, 13:31:38:00- 13:31:44:00
mechanical press operating
SP014B, **SME4423**, 13:11:42:00 - 13:11:50:00
hydraulic press operating
SP014C, **SME4423**, 13:32:35:00 - 13:32:49:00
pan down press to stamping operation
SP014D, **SME4423**, 13:48:12:20 - 13:48:22:22
wide, press operating

NARRATION (VO) :

PRESSES CAN BE CLASSIFIED BY HOW THEY
ARE POWERED: EITHER MECHANICAL...,
OR HYDRAULIC.
BUT MORE TYPICALLY, THEY ARE CLASSIFIED
BY FRAME CONFIGURATION, THAT IS 'C' OR
GAP FRAME...,
OR STRAIGHTSIDE.

SCENE 5.

ANI: press
ANI: press feature highlighted

NARRATION (VO) :

IN A MECHANICAL PRESS, AN ELECTRIC MOTOR
SUPPLIES THE WORKING ENERGY AS A NUMBER

, CGS: Flywheel

ANI: press feature highlighted
, CGS: Gears

ANI: press feature highlighted, add arrow
, CGS: Clutch

ANI: press feature highlighted
, CGS: Crankshaft

ANI: press feature highlighted
, CGS: Pitman

ANI: press feature highlighted, add arrows
, CGS: Connection

ANI: press feature highlighted
, CGS: Slide/Ram

ANI: press feature highlighted
, CGS: Counterbalance

ANI: press feature highlighted, add arrows
, CGS: Brake

OF MOVING PARTS STORE, CONTROL, AND TRANSMIT THAT ENERGY TO THE WORKPIECE THROUGH THE DIE. ENERGY TRANSMITTING COMPONENTS INCLUDE THE FLYWHEEL..., GEARS..., CLUTCH..., CRANKSHAFT..., PITMAN..., CONNECTION..., SLIDE OR RAM..., COUNTERBALANCE..., AND BRAKE.

PRESS TONNAGE REQUIREMENTS ARE BASED PRIMARILY ON LINEAR MEASUREMENTS, BUT WILL ALSO INCLUDE A STOCK THICKNESS, ALLOY TYPES, AND PART COMPLEXITY.

SCENE 6.

SP017C, SME4428, 16:30:45:14 - 16:31:00:00
high speed mechanical press operating at about 1000 parts per minute

NARRATION (VO) :

SO-CALLED HIGH-SPEED PRESSES OPERATE AT SPEEDS RANGING FROM 300 TO 2000 STROKES PER MINUTE, WITH 1000 TO 1400 STROKES PER MINUTE BEING THE OPTIMUM SPEED RANGE.

SCENE 7.

SP014B, SME4423, 13:11:42:00 - 13:11:50:00
hydraulic press in operation
, **SME2757, 01:13:34:00-01:13:54:00**
operation needing hydraulic press

NARRATION (VO) :

HYDRAULIC PRESSES USE ONE OR MORE CYLINDERS CONTAINING PRESSURIZED FLUID TO PROVIDE THE REQUIRED MOTION AND FORCE TO STAMP PARTS. THEY OFTEN HAVE ADVANTAGES OVER MECHANICAL PRESSES,

ESPECIALLY IN SITUATIONS WHERE FULL
FORCE IS NEEDED HIGH UP IN THE WORKING
STROKE.

SCENE 8.

, **SME2694, 02:11:24:00-02:11:32:00**
manually feeding blanks to press
, **SME2757, 01:04:45:00-01:04:56:00**
magazine/vacuum cup feeding blanks to
press by transfer unit
, **SME2757, 01:07:58:00-01:08:05:00**
independent slide/gripper feeder,
operating
, **SME2760, 03:10:26:00-03:10:32:00**
press driven coil roll feeder
, **SME3547, 20:05:15:00-20:05:42:00**
air slide feeding of stock

NARRATION (VO) :

THERE ARE MANY OPTIONS AVAILABLE FOR
FEEDING BLANKS...,
AND COILED SHEET METAL STOCK TO STAMPING
PRESSES.

--- FADE TO BLACK ---